Draft Environmental Assessment

Louisiana Statewide Alert & Warning System Project
Construction of Doppler Weather Radar System Tower Project, Monroe, LA

Ouachita Parish, Louisiana
HMGP 1603-0389

FEMA-1603-DR-LA

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U.S. Department of Homeland Security
New Orleans Recovery Office
New Orleans, Louisiana

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AAMI	Association for the Advancement of Medical Instrumentation
ACHP	Advisory Council on Historic Preservation
AGL	Above Ground Level
ANSI	American National Standards Institute
BMP	Best Management Practices
CBRS	Coastal Barrier Resources System
CFR	Code of Federal Regulations
CWA	Clean Water Act
DFIRM	Digital Flood Insurance Rate Map
DWRS	Doppler Weather Radar System
EA	Environmental Assessment
EIS	Environmental Impact Statement
EMF	Electromagnetic Field
EPA	Environmental Protection Agency
FAA	Federal Aviation Administration
FAR	Federal Aviation Regulations
FEMA	Federal Emergency Management Agency
FONSI	Finding of No Significant Impact
FPPA	Farmland Protection Policy Act
GHz	Gigahertz
GOHSEP	Governor's Office of Homeland Security and Emergency Preparedness
HMGP	Hazard Mitigation Grant Program
IEEE	Institute of Electrical and Electronic Engineers
LA	Louisiana
LDEQ	Louisiana Department of Environmental Quality
LDEQ EDMS	LDEQ Electronic Document Management System
LDEQ LUST	LDEQ Leaking Underground Storage Tank Database
LDEQ VRP	LDEQ Voluntary Remediation Program Database
LDNR	Louisiana Department of Natural Resources
LDWF	Louisiana Department of Wildlife and Fisheries
LPDES	Louisiana Pollutant Discharge Elimination System
MBTA	Migratory Bird Treaty Act of 1918
MHz	Megahertz
MPH	Miles per Hour
NAO	NOAA Administrative Order
NAO 216-6	NOAA's *Environmental Review Procedures for Implementing the National Environmental Policy Act* (NOAA 1999)
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act of 1966, as Amended
NOAA	National Oceanic and Atmospheric Administration
NRCS	Natural Resources Conservation Service
NTIA	National Telecommunications and Information Administration
NWS	National Weather Service
OSHA	Occupational Health and Safety Administration

RFR	Radiofrequency Radiation
R.S.	(Louisiana Code) Revised Statute
SHPO	State Historic Preservation Office/Officer
SONRIS	Strategic Online Natural Resources Information System
ULM	University of Louisiana Monroe
USACE	United States Army Corps of Engineers
USC	United States Code
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service

1.0 INTRODUCTION

1.1 Project Authority

In accordance with 44 Code of Federal Regulation (CFR) for the Federal Emergency Management Agency (FEMA), Subpart B – Agency Implementing Procedures, Section 10.9, an environmental assessment (EA) was prepared pursuant to Section 102 of the National Environmental Policy Act of 1969, as implemented by the regulations promulgated by the President's Council on Environmental Quality (40 CFR Parts 1500-1508). The EA determines if the proposed construction of a Doppler Weather Radar System (DWRS) tower adjacent to the University of Louisiana Monroe (ULM) Agriculture & Auto Science Shop building Monroe, Louisiana and the installation of associated electronic equipment within the structure would have the potential for significant adverse effects on the quality of the human and natural environment. The results of this EA will be used to make a decision whether to initiate preparation of an Environmental Impact Statement (EIS) or to prepare a Finding of No Significant Impact (FONSI).

Hurricane Katrina, a Category 4 hurricane with a storm surge above normal high tide levels, moved across the Louisiana, Mississippi and Alabama gulf coasts on August 29, 2005. Maximum sustained winds at landfall were estimated at 140 miles per hour. President Bush declared a major disaster for the State of Louisiana due to damages from Hurricane Katrina and signed a disaster declaration (FEMA-1603-DR-LA) on August 29, 2005, authorizing the Department of Homeland Security's Federal Emergency Management Agency (FEMA) to provide federal assistance in designated areas of Louisiana. FEMA is administering this disaster assistance pursuant to the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act), PL 93-288, as amended. Section 404 of the Stafford Act authorizes FEMA's Hazard Mitigation Program to provide funds to states and local governments to implement long-term hazard mitigation measures after a major disaster declaration.

1.2 Project Location

Ouachita Parish is located in northeast Louisiana. It is a total of approximately 633 square miles, comprised of approximately 611 square miles of land and 22 square miles of water. It is bordered to the north by Union and Morehouse Parishes, to the east by Morehouse and Richland Parishes, to the south by Caldwell Parish, and to the west by Jackson and Lincoln Parishes. The City of Monroe is located in the central part of Ouachita Parish. Monroe is the parish's largest municipality and is the location of major parish government facilities, with approximately 51,682 people, according to 2005-2009 census estimated figures. The proposed DWRS site at the ULM Agriculture & Auto Science Shop is located at 807 Highway 80 East, Monroe, Ouachita Parish, Louisiana, (32.529321, -92.011773), approximately four miles east of the City of Monroe, Louisiana (Figures 1, 2, and 3). The proposed project is located within Section 81, Township 18N, Range 04E.

Figure 1: Proposed Project Location in Monroe, Ouachita Parish, Northeast Louisiana

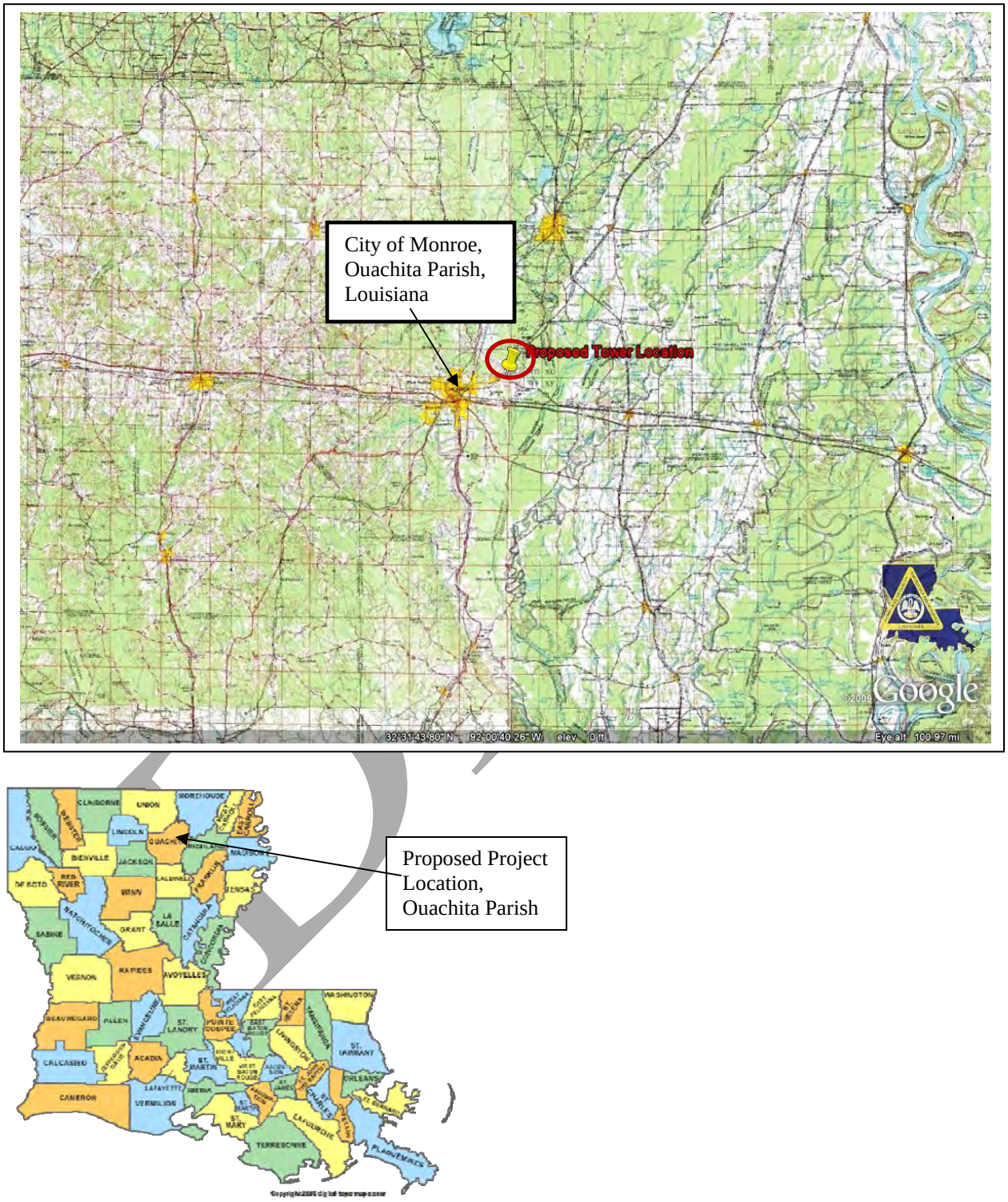


Figure 2: Proposed DWRS Tower Location near Monroe, Ouachita Parish, Louisiana

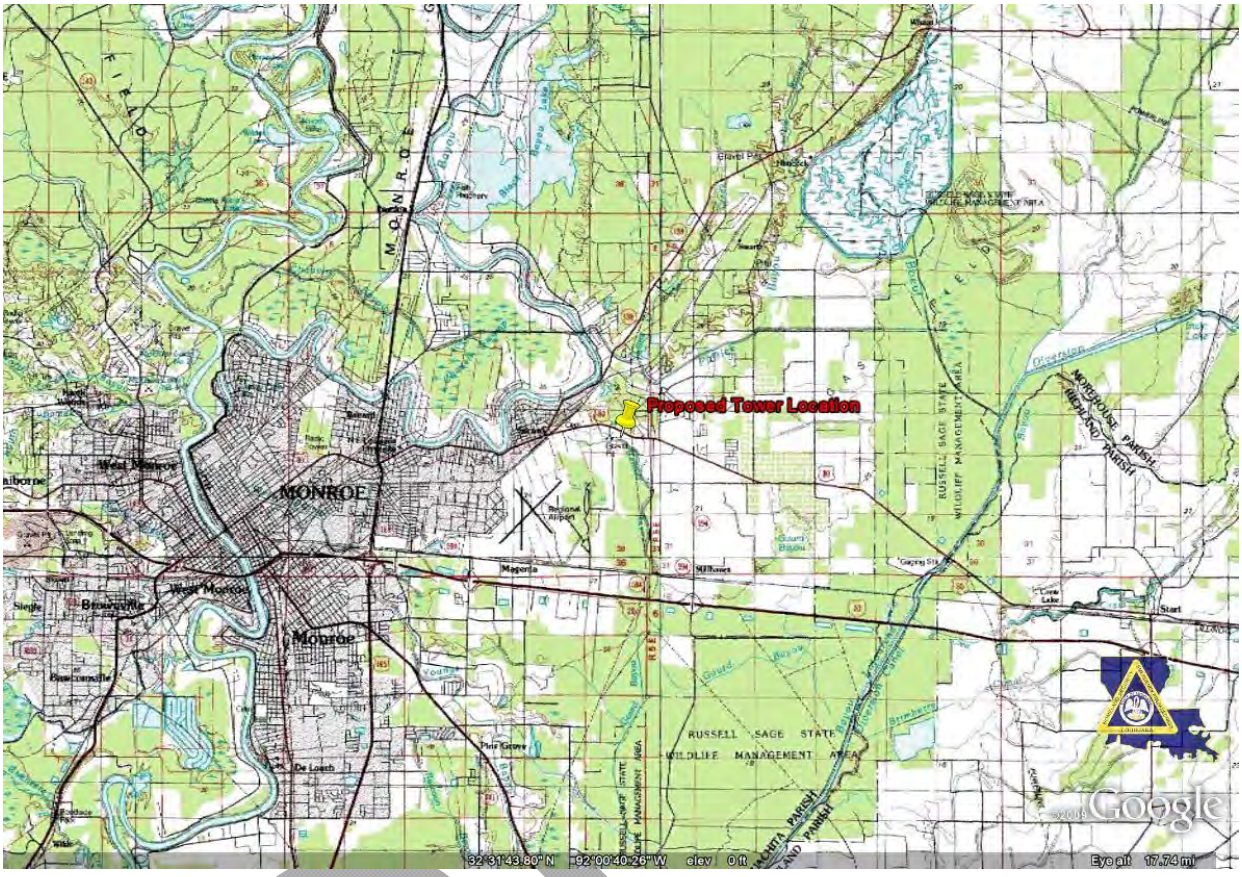


Figure 3: Proposed DWRS Tower Location near U.S. Highway 80 East, Monroe, Ouachita Parish, Louisiana

2.0 PURPOSE AND NEED

The objective of the proposed project is to enhance the ability to identify severe weather events including impending disasters such as hurricanes, tropical storms, tornados, and other severe weather events, such as hailstorms and severe thunderstorms in the northeast Louisiana quadrant. This enhancement would potentially save lives, reduce the need for further disaster assistance, and reduce repetitive damage and suffering. There is a need to provide up to the minute severe weather hazard related information and data, which would improve public safety, limit the damage to, and the loss of function of, existing facilities, and provide the ability to disseminate timely alerts and warnings of impending severe weather events and natural disasters and updates during such events that occur in the northeast Louisiana quadrant.

3.0 ALTERNATIVES

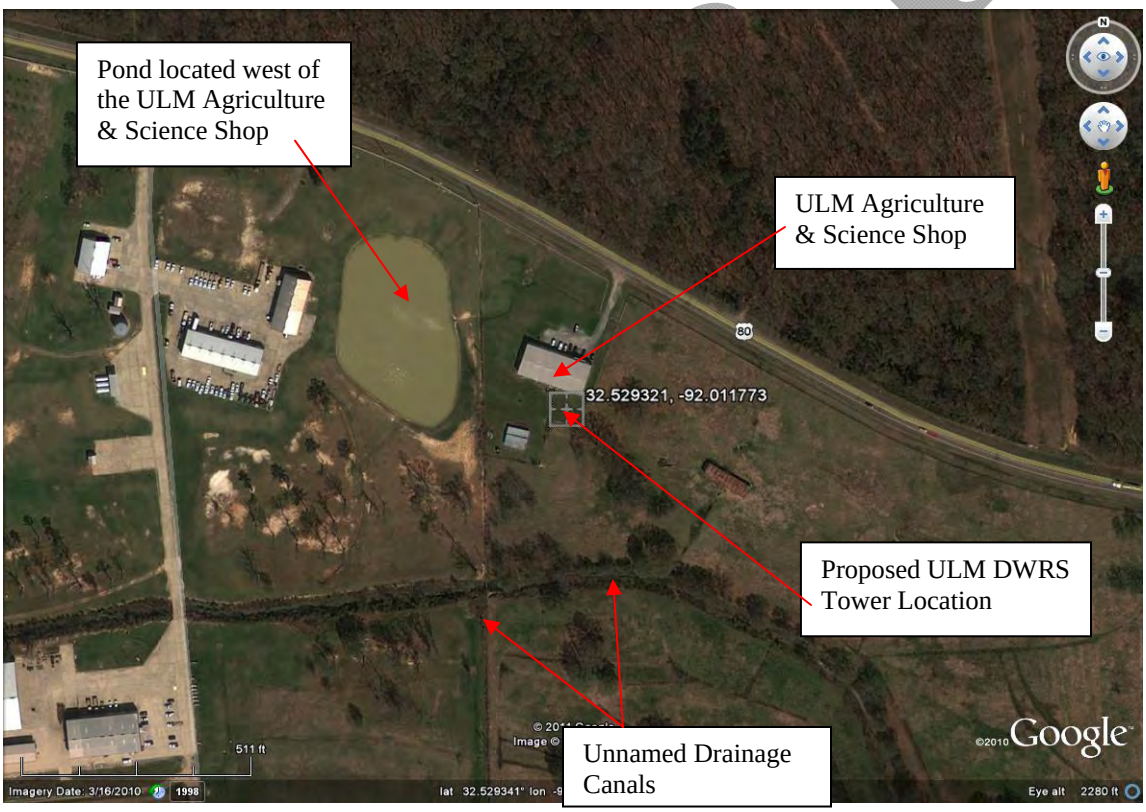
3.1 Alternative 1 - No Action

Under this alternative, the State of Louisiana would not construct the DWRS Tower at the ULM Agriculture & Auto Science Shop building. Consequently, the people living and working in the northeast Louisiana quadrant would continue to be underserved in terms of severe weather alerts and warnings prior to and during severe storms, flash flooding, tornado warnings and watches, tropical storms, and hurricanes.

3.2 Alternative 2 – Construction of the Doppler Weather Radar System tower at the ULM Agriculture & Auto Science Shop in Monroe, Ouachita, Parish (Proposed Action)

The scope of work for the proposed action at the ULM location is to construct/install a new Enterprise Electronics Corporation DWSR-8501S Doppler Weather Radar System, which includes a local maintenance work station, a radar site control and data processing server, and a simultaneous dual polarization package; all of which would be located inside the ULM Agriculture & Auto Science Shop located at 807 U.S. Highway 80 East, Monroe, Louisiana. In addition, a tower would be constructed to support a dual polarization radar antenna/pedestal assembly with a 41-foot diameter Sandwich Foam Core Radome approximately 30-40 feet south of the southeast corner of the existing main structure (Figure 4). The purpose of the radome is to enclose the approximate 28-foot diameter DWRS transmitter antenna and receiver dish and to protect them from the elements. The exterior of the radome would be equipped with one or more lightning rods, ranging from 2 feet to 7 feet in length.

Figure 4: Proposed DWRS Tower Location at the Southeast Corner of the ULM Agriculture & Auto Science Shop



The proposed DWRS site property has been previously disturbed and improvements are being maintained by ULM. Existing structures on the site include a parking lot, the concrete slab for the main building, and support for various out buildings. The proposed DWRS tower location is currently undeveloped, but is planted with lawn grass and is maintained by ULM (Figure 5).

There are several trees in the proposed project area; however, according to the Applicant, no trees would be removed as part of the proposed project.

Figure 5 Photo of Proposed DWRS Tower Location – Ground Level View

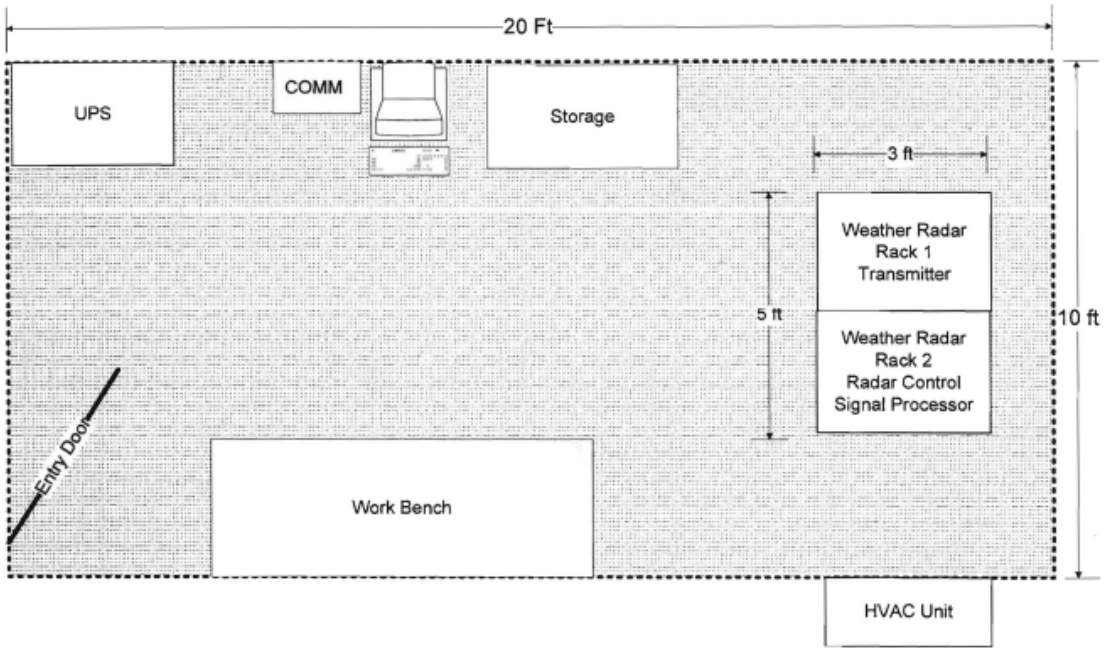
Note: Photo was provided by the Applicant

ULM personnel would operate the DWRS and distribute its data in real time to the Governor's Office of Homeland Security and Emergency Preparedness (GOHSEP), regional law enforcement agencies, and other interested parties, thus reducing future risk of unknown severe weather events. If necessary for the safety of the operational personnel, the DWRS information output can be accessed remotely using a computer with an Internet connection. In addition, the Applicant has indicated that field-based training, consisting of a two-week engineering training session would cover the system layout and design concepts and all hardware modules. An additional two-week software training session would provide in-depth instruction on all required algorithms and the Application Program Interface layout.

The ULM Agriculture & Auto Science Shop would be refurbished to house the associated DWRS electronic equipment and serve as the distribution point for real time data. The proposed location of the electronic equipment within the existing structure is presented in Figure 6. The equipment would include a DWRS-8501S/SDP S-Band, Simultaneous Dual Polarization Doppler Weather Radar System, electrical and mechanical tool boxes. The proposed DWRS would use the existing utilities already installed at the proposed site. Electronic equipment information and specifications supplied by Enterprise Electronics Corporation are presented in Appendix A.

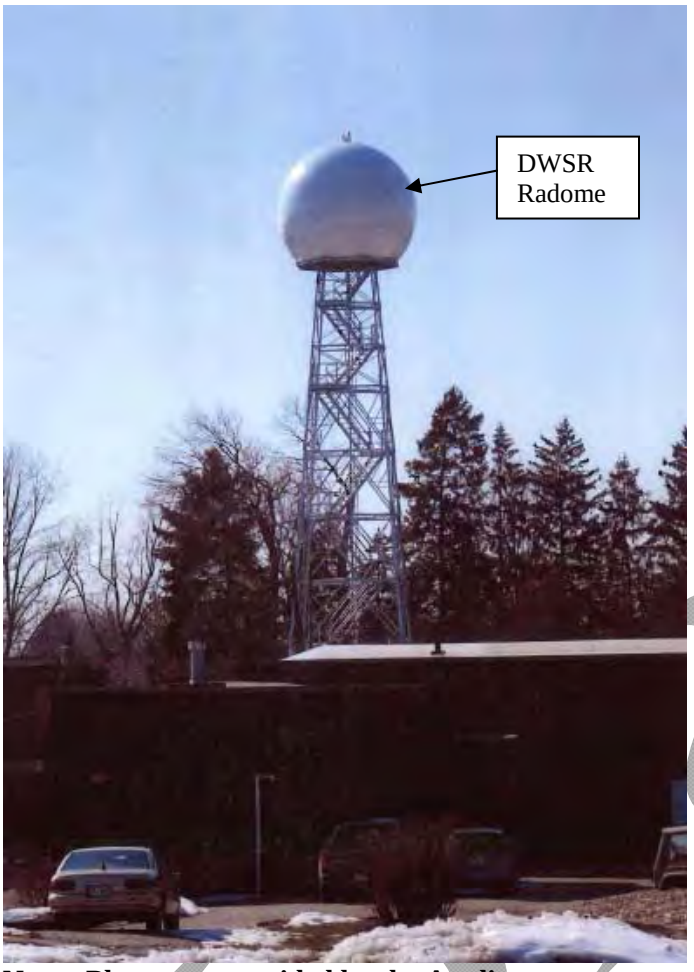
In order to provide emergency back-up electrical power to support the DWRS in the event of a loss of electrical power due to severe weather, the Applicant would purchase and install a 60 kilowatt generator. The generator would be placed on a concrete slab foundation next to the ULM Agriculture & Auto Science Shop.

Figure 6: Proposed Location of Electronic Equipment within the Agriculture & Auto Science Shop



According to the Applicant, the height of the proposed DWRS tower would be 70 feet above ground level (AGL), and would take up less visual space than a typical farm silo or municipal water tower. The proposed DWRS tower would be free standing and would not require guy wires. The proposed tower would have access stairs, grating, and handrails. Ground disturbance would be required for this project. According to the Applicant, a complete soil analysis would be performed by a civil engineering firm to determine the amount of weight and loads a tower would require in terms of the tower foundation. The dimensions of ground disturbance for the proposed project, as provided by the Applicant, would be approximately 3 feet deep, 25 feet long, and 25 feet wide (625 square feet) for a solid tower foundation. Alternatively, four separate pylons (typically 5 feet by 5 feet), installed to a depth of 8 feet or more may be required, based on the findings of a licensed engineer who specializes in soil analysis for these types of installations. The Applicant has provided two photos (Figures 7 and 8), which depict the visual effect of the proposed DWRS tower after construction has been completed. A security fence would be installed around the tower to discourage trespassers. According to the Applicant, Enterprise Electronics Corporation has stated that there would be typical construction noise during equipment installation and that no emissions would occur to the atmosphere.

Figure 7 Example of Similar Existing DWRS Tower at another Location for Visual Effect



Note: Photo was provided by the Applicant

Figure 8 Example of Similar Existing DWRS Tower at another Location for Visual Effect

Note: Photo was provided by the Applicant

Project site photographs are presented in Appendix B.

A justification analysis for the proposed project is presented in Appendix C.

3.3 Alternatives Eliminated From Further Consideration

The following alternatives were also considered as a possible ways to address the purpose and need of the Applicant but were eliminated from further consideration.

3.3.1 Changing the Scan Angles of Existing Regional NWS DWRSs

According to the report entitled *Supplemental Environmental Assessment (EA) of the Electromagnetic Effects of Operating Weather Service Radar – 1988, Doppler (WSR-88D) to Serve Coastal Washington at Scan Angles Below +0.5 Degree,* prepared by Sensor Environmental LLC for the National Weather Service (NWS), dated September 2011, the scanning capabilities of an existing DWRS can be improved by operating the DWRS at scan

angle lower than the typical minimum of +0.5 degree above horizontal (see Appendix C). For special situations, scan angles as low as 0.0 degree (horizontal) may be employed to improve radar coverage both by increasing the radius of the coverage and by decreasing the altitude of lowest height of "visible" radar coverage. The effect of the change in the scan angles of each of the existing regional NWS-owned and -managed DWRSs referenced in Appendix C, which includes Shreveport, Louisiana, Fort Polk, Louisiana, Jackson, Mississippi, and Little Rock, Arkansas, would need to be assessed to determine the amount of improvement in the combined radar coverage in the northeast Louisiana quadrant that would be achieved with this alternative. This scan angle change process would need to be performed by the NWS and would require NEPA documentation in the form of an EA for each of the existing DWRSs mentioned above, according National Oceanic and Atmospheric Administration (NOAA) Administrative Order (NAO) 216-6, *Environmental Review Procedures for Implementing the National Environmental Policy Act* (NOAA 1999) (NOA 216-6), a document whose requirements these actions would be subject to if they were carried out by the NWS. Changing the scan angle of an existing DWRS does not meet any of the categorical exclusions listed in NAO 216-6; therefore, preparation of an EA (with a 30-day public comment period) for each of the four existing DWRSs would be required. In a response letter to the Applicant, the NWS Shreveport, Louisiana Forecast Office indicated that basic radar coverage is provided for the Monroe, Louisiana area by the Shreveport, Louisiana DWRS, and that the NWS has no plans to enhance the radar service provided to the northeast Louisiana quadrant (see Appendix D).

Because the execution of this alternative would require actions on the part of a Federal agency that may not have the need, desire, staffing, or immediately available funding to carry out the actions; would take in place in areas outside the Applicant's geographic area of interest (including other states); and may not provide the desired level of improvement in the combined radar coverage for the northeast Louisiana quadrant, this alternative is not considered feasible and has been dismissed.

3.3.2 Installing a Weather Surveillance Radar System

Another alternative that was considered by the Applicant is the installation of a Weather Surveillance Radar (WSR-74C), attendant computer equipment, and a supporting back-up power generator on the ULM campus, which is located in the center of the poor weather coverage area (see Appendix C). The WSR-74C operates on the C-Band and is capable of detecting the presence and intensity of precipitation. In general, this type of radar is local use radar that only operates when severe weather is expected. The primary limitation of the WSR-74C is that is can only provide reflectivity data; that is, this type of radar only measures how much of the radar beam was absorbed by a particular area aloft and translates this into a measure of intensity of area precipitation. There is no way to programmatically determine the motion of a storm or if the storm is rotating. By contrast, the proposed DWRS (Alternative 2) provides the ability to determine the motion of a storm, rotational activities of the storm, and the storm intensity in the absence of precipitation. The cost of this alternative is estimated to be $3.7 million, which is similar to the cost of proposed DWRS. Because this type of radar would not provide optimum severe weather data and would have a cost similar to that of the proposed DWRS, this alternative has been dismissed.

4.0 AFFECTED ENVIRONMENT AND IMPACTS

4.1 Impact Summary

The following matrix summarizes the results of the environmental review process (Table 1). Potential environmental impacts that were found to be negligible are not evaluated further. Resource areas that have the potential for impacts of minor, moderate, or major intensity are further developed in the following sections. Definitions of the impact intensity are described below:

Negligible: The resource area (e.g., geology) would not be affected, or changes would be either non-detectable or if detected, would have effects that would be slight and local. Impacts would be well below regulatory standards, as applicable.

Minor: Changes to the resource would be measurable, although the changes would be small and localized. Impacts would be within or below regulatory standards, as applicable. Mitigation measures would reduce any potential adverse effects.

Moderate: Changes to the resource would be measurable and have both localized and regional scale impacts. Impacts would be within or below regulatory standards, but historical conditions are being altered on a short-term basis. Mitigation measures would be necessary and the measures would reduce any potential adverse effects.

Major: Changes would be readily measurable and would have substantial consequences on a local and regional level. Impacts would exceed regulatory standards. Mitigation measures to offset the adverse effects would be required to reduce impacts, though long-term changes to the resource would be expected.

Table 1 - Affected Environment and Environmental Consequences Matrix

Resource Area	Impact Intensity				Impact Summary	Agency Coordination / Permits	Mitigation
	Negligible	Minor	Moderate	Major			
Geology, Soils, and Seismic Hazards	X				There is potential for short-term localized increase in soil erosion during construction. The U.S. Department of Agriculture (USDA-Natural Resources Conservation Service (NRCS) Alexandria, Louisiana (LA) office has determined that the proposed project will not impact any Prime, Unique, or Local Important Farmland; therefore, the proposed project is not subject to the Farmland Protection Policy Act (FPPA)-Subtitle I of Title XV, Section 1539-1549. Louisiana lies in an area of low seismic risk. There are no known subsurface faults in Ouachita Parish and no recorded historical earthquakes in Ouachita Parish. See Appendix D for maps of Louisiana geologic faults and historical earthquakes. The potential for seismic effects on the DWRS tower would be taken into account during the soil stability analysis and installation planning, which would be conducted by a licensed engineer specializing in soil analysis for these types of installations.	USDA-NRCS correspondence letter from Kevin D. Norton of the Abbeville, LA Field Office, dated 6/27/2011. (See Appendix D) Louisiana Department of Environmental Quality (LDEQ) email dated 7/1/2011. (See Appendix D) Internet Resource: Earthquakes in Louisiana	Implement construction Best Management Practices (BMPs); install silt fences/straw bales to reduce sedimentation. Area soils would be covered and/or wetted during construction. If fill is stored on site as part of unit installation or removal, the contractor would be required to appropriately cover it. Construction contractor would be required to obtain applicable Louisiana Pollutant Discharge Elimination System (LPDES) permit, and implement stormwater pollution prevention plan. See also Section 6.0.
Hydrology and Floodplains (Executive Order 11988)	X				Preliminary Digital Flood Insurance Rate Maps (DFIRMs) for Ouachita Parish dated 8/7/2009 were reviewed for the proposed project site. The site is located within X (white/unshaded area on the DFIRM), which is outside the 1.0 percent (100-year) and 0.2 percent (500-year) annual chance flood.	Preliminary DFIRM Panel 22073C 0170F (See Appendix D)	The project area must be kept cleared so as not to interfere with floodplain functions.
Wetlands (Executive Order 11990)	X				No U.S. Fish and Wildlife Service (USFWS)-mapped wetlands are present in the proposed project area. The U.S. Army Corps of Engineers (USACE) determined that the proposed project does not require a Department of the Army permit under Section 404 of the Clean Water Act (CWA).	Response email from the USACE, Vicksburg, Mississippi Field Office, dated 7/12/2011. (See Appendix D)	Any changes or modifications to the proposed project will require a revised determination. Off-site locations of activities such as borrow, disposals, haul- and detour roads, and work mobilization site developments may be subject to USACE regulatory requirements. See also Section 6.0.
Surface Water and Water Quality		X			The proposed DWRS tower location is located near a pond and two unnamed drainage canals. There is potential for short-term localized increase in sedimentation during construction. See also Section 4.2.	LDEQ email dated 7/1/2011. (See Appendix D)	Contractor to contact the LDEQ to determine if a LPDES permit is required for the proposed project. Implement construction BMPs; install silt fences/straw bales to reduce sedimentation. See also Sections 4.2 and 6.0.

Resource Area	Impact Intensity				Impact Summary	Agency Coordination / Permits	Mitigation
	Negligible	Minor	Moderate	Major			
Groundwater	X				Ouachita Parish overlies the Sparta Aquifer system, which is not a Sole Source Aquifer. However, this aquifer system has been designated as an "Area of Groundwater Concern", due to excessive withdrawal rates in recent years. For the year period between 1990 and 2000, the withdrawal rate was between 3 and 4 feet per year in proposed project area. Refer to the Sparta Aquifer map presented in Appendix D. The Environmental Protection Agency (EPA) – Region VI determined that the project should not have an adverse effect on the quality of the ground water underlying the project site. It is not anticipated that the construction of the proposed DWRS would encourage increased future development, thereby placing increased demands on this already stressed aquifer. According to the Department of Natural Resources (LDNR) Strategic Online Natural Resources Information System (SONRIS) database, there are no registered water wells located within the project vicinity.	EPA-Region VI correspondence letter dated 6/28/2011. (See Appendix D) LDEQ email dated 7/1/2011. (See Appendix D) LDNR Memorandum dated 8/15/2005. (See Appendix D) Internet Resources: LDNR SONRIS Database. LDEQ 2010 Envirothon Training Land Use Planning and Its Effect on Groundwater Slide Presentation. EPA Region VI Sole Source Aquifer Web Site	The contractor should observe all precautions to protect the groundwater of the region. See also Section 6.0.
Coastal Resources	X				According to the LDNR, the project is not located within the Louisiana Coastal Zone. The project is not located within the Coastal Barrier Resource System (CBRS).	LDNR response letter dated 6/29/11. (See Appendix D) Preliminary DFIRM Panel 22073C 0170F (for CBRS) (See Appendix D)	
Air Quality	X				According to the system manufacturer, "no emissions would occur to the atmosphere"; however, during construction, there is potential for short-term localized increase in vehicle emissions and dust particles. The Ouachita Parish airshed is in attainment for all criteria pollutants per the Clean Air Act.	LDEQ email dated 7/1/2011. (See Appendix D)	Vehicle operation times would be kept to a minimum. Area soils would be covered and/or wetted during construction to minimize dust. See also Section 6.0.
Vegetation and Wildlife	X				The proposed project located in an area which is sparely developed and borders agricultural fields. The developed areas of the project site consist of maintained grassland, paved roadways and driveways, and man-made drainage channels. No long-term impacts to existing vegetation and wildlife are anticipated.	USFWS determination of no effect, dated 6/29/2011. (See Appendix D)	

Resource Area	Impact Intensity				Impact Summary	Agency Coordination / Permits	Mitigation
	Negligible	Minor	Moderate	Major			
Threatened and Endangered Species (Endangered Species Act Section 7)	X				The only Federally-listed endangered species currently listed in Ouachita Parish is the Red-cockaded woodpecker (*Picoides borealis*). No impact to federally listed threatened or endangered species is anticipated. No impacts to critical habitats are anticipated. No impacts to rare, threatened, or endangered species or critical habitats are anticipated for the proposed project. No state or federal parks, wildlife refuges, scenic streams, or wildlife management areas are known at the specific site.	USFWS determination of no effect on Federal trust resources, dated 6/29/2011. (See Appendix D) Louisiana Department of Wildlife and Fisheries (LDWF) response letter dated 8/10/2011. (See Appendix D) Internet Resource: USFWS IPaC System (Information, Planning, and Conservation)	The Applicant would be responsible for contacting the USFWS if there is a change in the scope of work, the project necessitates removal of mature pine trees or if construction activities have not been initiated within one year. See also Section 6.0.
Bald and Golden Eagle Protection Act of 1940 (Title 16 United States Code [USC] §§668-668c)	X				The bald eagle is protected under the Bald and Golden Eagle Protection Act, which prohibits anyone, without permission from the Secretary of the Interior, from "taking" bald eagles, including their parts, nests, or eggs. The Act provides criminal penalties for persons who "take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import, at any time or any manner, any bald eagle ... [or any golden eagle], alive or dead, or any part, nest, or egg thereof." The Act defines "take" as "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb." Bald eagles are known to occur in Ouachita Parish.	Internet Resource: USFWS Bald Eagle Management Guidelines and Conservation Measures – The Bald and Golden Eagle Protection Act	If a bald eagle or its nest is spotted within 1,500 feet of the project site during the months of October through mid-May, the Applicant must cease construction activities and contact LDWF and USFWS immediately. All correspondence must be documented and remain in the project permanent files. See also Section 6.0.

Resource Area	Impact Intensity				Impact Summary	Agency Coordination / Permits	Mitigation
	Negligible	Minor	Moderate	Major			
Migratory Bird Treaty Act of 1918 (MBTA) (Title 16 United States Code [USC] §§703-712)	X				The entire State of Louisiana is located within the Mississippi River Flyway. No impact to migratory birds is anticipated. No impacts to critical habitats are anticipated. According to USFWS Guidance, the construction of new towers creates potentially significant impact on migratory birds. A Communication Tower Working Group consisting of government agencies, industry, and academic researchers has formulated guidelines for constructing and operating towers to prevent bird strikes. The specific guidelines which are pertinent to this study include: • Co-location of towers is encouraged; • New towers should be no more than 199 feet AGL in height; • Construction techniques that do not require guy wires (such as monopole, lattice, and self-supporting tower designs) are encouraged; • Towers should be unlighted where possible; • New towers should be fitted in decreasing order of priority with white strobes, red strobes, or blinking incandescent lighting, and no L-810 side lights should be used; • If possible, new towers should be located near existing "antenna farms"; • Towers should not sited near wetlands, in known bird migratory or daily movement flyways, in other known bird concentration areas, such as state or Federal refuges, staging areas, or rookeries, or in the habitat of threatened or endangered species; • Towers should not be sited in areas with high incidence of fog, mist, and low ceilings; • Towers and appending facilities should be sited, designed, and constructed so as to avoid or minimize habitat loss within and adjacent to the tower footprint; • Seasonal construction restrictions may be advisable in order to avoid disturbance during periods of high bird activity; • Road access and fencing should be minimized; • Security lighting for on-ground facilities and equipment should be down-shielded to keep light within the site boundaries. The proposed DWRS tower would be 70 feet in height, would not have guy wires, and would have minimal lighting.	USFWS determination of no effect on Federal trust resources, dated 6/29/2011. (See Appendix D) LDWF response letter dated 8/10/2011. (See Appendix D) Internet Resources: Draft MBTA Memorandum of Understanding Between FEMA and the USFWS Regarding Implementation of Executive Order 13186 "Responsibilities of Federal Agencies to Protect Migratory Birds" USFWS Migratory Bird Program Service Guidance on the Siting, Construction, Operation and Decommissioning of Communications Towers, dated 9/14/2000 and last updated 4/11/2011. (See Appendix D)	The Applicant should contact the local or regional USFWS office for instructions on the proper collection and disposal of injured or dead birds and removal of nests. If requested, the Applicant would allow USFWS personnel access to the tower site to document and monitor avian mortalities and injuries, monitor bird behavior, assess lighting impacts on migratory birds, and conduct similar research. If the proposed tower is constructed and is discovered to have adverse effects to migratory birds, (i.e., greater than 10 birds kills per night), the tower must be reported immediately to the USFWS. All correspondence must be documented and remain in the project permanent files. See also Section 6.0.

Resource Area	Impact Intensity				Impact Summary	Agency Coordination / Permits	Mitigation
	Negligible	Minor	Moderate	Major			
Cultural Resources (National Historic Preservation Act of 1966, as Amended [NHPA] Section 106)	X				A review of this project was conducted in accordance FEMA's Louisiana Hazard Mitigation Grant Program (HMGP) Secondary Programmatic Agreement (LA HMGP PA) dated January 31, 2011. FEMA has determined that No Historic Properties are affected by the proposed undertaking. The State Historic Preservation Office (SHPO) concurrence with this determination was dated October 4, 2011. Consultation with affected tribes, including the Caddo Nation, the Choctaw Nation of Oklahoma, the Coushatta Tribe of Louisiana, the Jena Band of Choctaw Indians, the Mississippi Band of Choctaw Indians, the Quapaw Tribe of Oklahoma, and the Tunica-Biloxi Tribe of Louisiana, was conducted per 36 CFR §800.2(c)(2)(i)(B) or the LA HMGP PA, as applicable. As no Tribes responded within the regulatory review period, Tribal concurrence is assumed. See Appendix D.	SHPO concurrence letter dated October 4, 2011. (See Appendix D)	If archaeological artifacts or features (prehistoric or historic) or human remains are discovered during the course of FEMA funded work at the project site, the Applicant must ensure that their Contractor stops work in the vicinity of the discovery and takes all reasonable measures to avoid and minimize harm to the discovery. The Applicant shall inform GOHSEP and FEMA of the discovery, and FEMA would deploy an archaeologist to the location to conduct a site condition assessment. The Applicant would not proceed with work until FEMA has completed consultation with the SHPO and other appropriate consulting parties on the treatment of the discovery. The local Coroner's Office would assess the nature and age of the human skeletal remains. If the Coroner's Office determines that the human skeletal remains are older than 50 years of age, the Louisiana Division of Archaeology would take jurisdiction over the remains. Within seventy-two (72) hours, the Applicant would notify FEMA and the Louisiana Division of Archaeology (225-342-8170) of the finding. FEMA would assist, as requested, the Louisiana Division of Archaeology and other interested parties, as necessary, to ensure compliance with the Louisiana Unmarked Human Burial Sites Preservation Act (Revised Statute [R.S.] 8:671 *et seq.*) and other applicable laws. In addition, the Applicant must afford FEMA the opportunity to comply with the "Human Remains Policy" set forth by the Advisory Council on Historic Preservation (ACHP). See also Section 6.0.

Resource Area	Impact Intensity				Impact Summary	Agency Coordination / Permits	Mitigation
	Negligible	Minor	Moderate	Major			
Environmental Justice (Executive Order 12898)/ Socioeconomics	X				According to the American Census, Data for year 2005-2009 (5-year estimates), the percentage of families in Monroe, LA below the poverty level is 29.0%. This figure for the U.S. as a whole is 9.9%. The median per capita income Monroe, LA is $29,158. This figure for the U.S. as a whole is $51,425. The year 2005-2009 estimates demographic census data for Monroe, LA are as follows: White: 36.9%, African American: 61.3%, Hispanic: 0.6%, and Asian: 0.8%. The comparable census demographic for the U.S. as a whole are: White: 74.5%, African American: 12.4%, Hispanic: 15.1%, and Asian: 4.4%. The proposed work has no potential to adversely impact any population.	Internet Resource: U.S. Census Bureau, American Fact Finder, Data for Monroe, Louisiana.	
Noise		X			During the construction period there will be a short-term increase in noise levels. See also Section 4.3.	Internet Resource: City of Monroe Louisiana Code of Ordinances Chapter 23 – Noise. (See Appendix D)	The following noise reduction measures should be considered: using a 7 A.M. to 10 P.M., Monday through Friday, construction schedule. See also Sections 4.3 and 6.0.
Traffic and Transportation		X			Traffic volumes along the respective work area would increase temporarily during work activities. Surface traffic on the affected areas of U.S. Highway 80 would be impacted by construction work. See also Section 4.4.		Appropriate signage and barriers should be in place prior to construction activities in order to alert pedestrians and motorists of project activities and traffic pattern changes. The contractor would implement traffic control measures, as necessary. See also Sections 4.4 and 6.0.

Resource Area	Impact Intensity				Impact Summary	Agency Coordination / Permits	Mitigation
	Negligible	Minor	Moderate	Major			
Federal Aviation Regulations (FAR) – Safe, Efficient Use, and Preservation of the Navigable Airspace (14 CFR Part 77) pursuant to Title 49 USC § 44718 – Structures Interfering with Air Commerce	X				There are two airports located within 3 miles of the proposed DWRS site. The Monroe Regional Airport, which is a commercial facility, is located southwest of the proposed DWRS location. The Huenefeld Public Airport, which is a small general aviation facility, is located southeast of the proposed DWRS site. The Federal Aviation Administration (FAA) FAR 14 CFR Part 77 establishes standards and notification requirements for objects affecting navigable airspace. An object constitutes an obstruction to navigation if it: • Is 200 feet AGL or 200 feet above the airport elevation (whichever is greater) up to 3 miles (for runway lengths greater than 3,200 feet) from the airport; • Increase 100 feet every mile up to 500 feet at 6 miles from the airport reference point; • Is 500 feet or more AGL at the object site; • Penetrates an imaginary surface (a function of the precision of the runway); • Penetrates the terminal obstacle clearance area (includes initial approach segment); • Penetrates the en-route obstacle clearance area (includes turn and termination areas of federal airways). FEMA initiated consultation with the FAA by email on October 20, 2011. The FAA did not respond to FEMA's consultation request within 30 days. See also Appendix D.	Internet Resources: FAR Part 77 Basics (Provided by the Michigan State Government) FAA Obstruction Evaluation/Airport Airspace Analysis Website	As required by 14 CFR Part 77, at least 30 days before the earlier of the following dates: (1) the date the proposed construction or alteration is to begin; or (2) the date an application for construction or alteration is to be filed, the Applicant must complete and submit to the FAA Form 7460-1 "Notice of Proposed Construction or Alteration", which may be accessed at: http://www.faa.gov/documentLibrary/media/form/faa7460_1.pdf and is also attached in Appendix D. The Applicant may also file this form electronically at: https://oeaaa.faa.gov/oeaaa/external/portal.jsp . See also Section 6.0.

Resource Area	Impact Intensity				Impact Summary	Agency Coordination / Permits	Mitigation
	Negligible	Minor	Moderate	Major			
Hazardous Materials and Toxic Wastes	X				EPA and LDEQ hazardous materials database searches queried for the project work area. No sites of concern were identified by the database search within or adjacent to the proposed project work area. No environmental conditions of concern were observed. The LDNR SONRIS database was queried for the project work area. There are no registered oil/gas wells or oil/gas fields located within or near the project area. No impacts related to hazardous materials and wastes are anticipated.	Internet Resources: EPA Envirofacts Database. EPA Enviromapper. EPA Brownfields Database. LDEQ Electronic Document Management System (EDMS). LDEQ Voluntary Remediation Program (VRP) Database. LDEQ Louisiana State Brownfields Database. LDNR SONRIS Database. LDEQ Leaking Underground Storage Tank (LUST) Database. LDEQ Authorized Debris Sites Database. Email from the LDEQ dated7/1/2011. (See Appendix D)	If hazardous materials are unexpectedly encountered in the project area during the proposed construction operations, appropriate measures for the proper assessment, remediation, management and disposal of the contamination would be initiated in accordance with applicable federal, state, and local regulations. The contractor would be required to take appropriate measures to prevent, minimize, and control the spill of hazardous materials in the construction area. See also Section 6.0.

Resource Area	Impact Intensity				Impact Summary	Agency Coordination / Permits	Mitigation
	Negligible	Minor	Moderate	Major			
Electromagnetic Radiofrequency Radiation (RFR)	X				As the DWRS antenna rotates, the antenna emits directional pulses of electromagnetic RFR and the receiver dish "listens" for return signals. Each pulse lasts approximately $1.57x10^{-6}$ second with a $998.43x10^{-6}$ second listening period in between the pulses. This process is repeated up to 1,300 times a second. The radar is able to record the direction and distance of the target (i.e., raindrops, hailstones, etc.) The RFR output from a DWRS, which travels at nearly the speed of light, is a type of non-ionizing radiation, which is incapable of ionizing atoms or molecules. This type of radiation does not remove an electron from an atom or molecule; rather, the electron is moved to a higher energy state. Non-ionizing radiation is emitted by microwave ovens, cellular telephones, television and radio broadcasts, and the majority of the sun's radiation is non-ionizing. Direct exposure to non-ionizing radiation can lead to heating of tissue and burns. In contrast, alpha particles, beta particles (which are not types of electromagnetic radiation because they are particles), x-rays, and gamma rays are ionizing radiation and are capable of removing electrons from atoms and molecules; potentially causing mutagenic effects, such as cancers. A schematic of the electromagnetic spectrum, which depicts examples of each type of electromagnetic radiation, is presented in Appendix A. The average transmitted power of a DWRS pulse is approximately 450,000 watts of energy (compared to approximately 1,000 watts for a microwave oven); however, the DWRS only transmits for a little over 7 seconds in total each hour. For the remaining 59 minutes and 52+ seconds of each hour, the DWRS is "listening" for return signals. According to the NWS EA (see right), the National Telecommunications and Information Administration (NTIA) of the Department of Commerce would approve operating frequency of the proposed DWRS. The NTIA regulations reserve the 2,700 to 3,000 megahertz (MHz), or 2.7 to 3.0 gigahertz (GHz) band for government radiolocation users, such as meteorological and aircraft surveillance radars. The proposed DWSR would operate outside the frequencies used by television and radio broadcasts, cellular telephones, and personal communication devices. The U.S. government has operated 155 DWRSs for approximately 23 years. Based on this experience, the potential for the proposed DWSR to cause interference with television and radio broadcasts, cellular telephones, and personal communication devices is very low. Thus, the proposed DWRS has no potential to interfere with communication media and devices that would be required for public safety communications. (RFR Impact Summary text continues on next page.)	Internet Resources: Federal Communications Commission - Radio Frequency Safety - Frequently Asked Questions. NWS JetStream - Online School for Weather – Doppler Radar. NWS EA - *Supplemental Environmental Assessment (EA) of the Electromagnetic Effects of Operating Weather Service Radar-1988, Doppler (WSR-88D) to Serve Coastal Washington at Scan Angles Below +0.5 degree.* Section 5.1, Section 5.2.5, and Appendix A. September 2011.	

Resource Area	Impact Intensity				Impact Summary	Agency Coordination / Permits	Mitigation
	Negligible	Minor	Moderate	Major			
Electromagnetic Radiofrequency Radiation (RFR) (continued)	X				There is ongoing debate regarding the safety and health risks of exposure to electromagnetic radiation from power lines, cellular telephones, and other sources of electromagnetic RFR. While there is no universally agreed upon "safe" level of RFR exposure for adults or children below which there would be no adverse health effects, according to the NWS EA (see above), the current U.S. National Standard for "safe" exposure of humans to RFR is the Institute of Electrical and Electronics Engineers (IEEE) C95.1-2005 Standard, dated April 19, 2006. This standard has been formally approved by the American National Standards Institute (ANSI), and is intended to protect all members of society (including elderly persons, pregnant women, and infants) from long-term RFR exposure and includes a 10- to 50-fold safety factor to ensure that no harm will result to persons from exposure to RFR fields. According to the NWS EA, the radio signal from a typical DWSR would comply with this safety standard at all locations outside the radome. At the surface of the radome, which only occupational workers, (for which the "safe" exposure levels are higher), would be exposed to during maintenance procedures, the RFR power density would be approximately 60 percent below the "safe" exposure level for the general public. At ground level at the base of the tower, RFR power density would be approximately 2,000 times less than the "safe" exposure level for the general public. The closest location were the ground surface would be illuminated by the DWSR is approximately 3.5 miles from the tower. At this distance, the RFR power density would be approximately 10,000 times less than the "safe" exposure level for the general public. Therefore, RFR from the proposed DWRS tower to which the general public would be exposed, combined with existing man-made and natural background radiation in the project area, is expected to have minimal adverse human health effects. Cumulative RFR exposure from all natural and man-made sources (including the proposed DWRS) would comply with safety standards for human exposure to RFR. High power RFR can interfere with active medical devices such as pacemakers and cardiac defibrillators. The Association for the Advancement of Medical Instrumentation (AAMI) has developed requirements for RFR field levels that such devices must be able to withstand without malfunction or harm to the device (ANSI/AAMI PC69:2007). According to the NWS EA (see above), the main beam from a DWRS would exceed this threshold level only within approximately a 2,060 foot radius of the tower and the ground would not be illuminated in this range; thus no significant effects to active medical device users are anticipated. See Appendix A for an aerial view of the approximate 2,060 foot radius from the proposed project location.		

4.2 Surface Water and Water Quality

The proposed project site slopes away from the ULM Agriculture & Auto Science Shop toward the drainage ditch to the south, (see Figures 4 and 5). There is a pond located west of and adjacent to the ULM Agriculture & Auto Science Shop, which is approximately 250 feet west of the proposed DWRS tower location (see Figure 4). In addition, there is a drainage channel that runs north to south along the west side of the ULM structure, approximately 190 feet west of the proposed DWRS tower location. Surface water drains from the proposed project site primarily via an unnamed drainage canal located approximately 380 feet south of the proposed DWRS tower location, (see Figure 4). This drainage canal drains into the Bennet Canal (Figure 9). The Bennet Canal drains into the Gourd Bayou, which drains into Young's Bayou. Young's Bayou drains into the Bayou Lafourche Diversion Canal (Figure 10). The Bayou Lafourche Diversion Canal then drains into the Boeuf River (Figure 11).

Figure 9: Topographic Map of Surface Water Drainage in Project Area

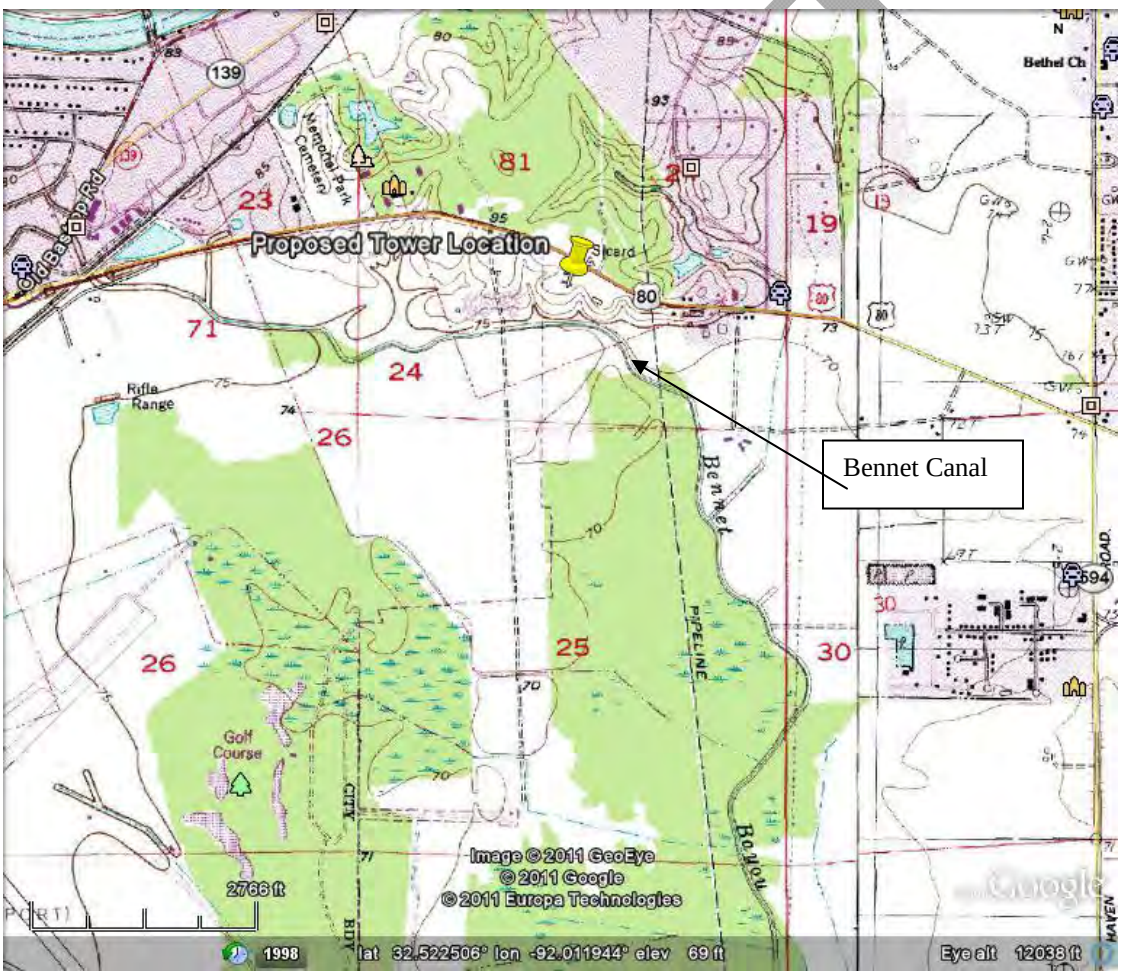


Figure 10: Drainage Map of the Project Area

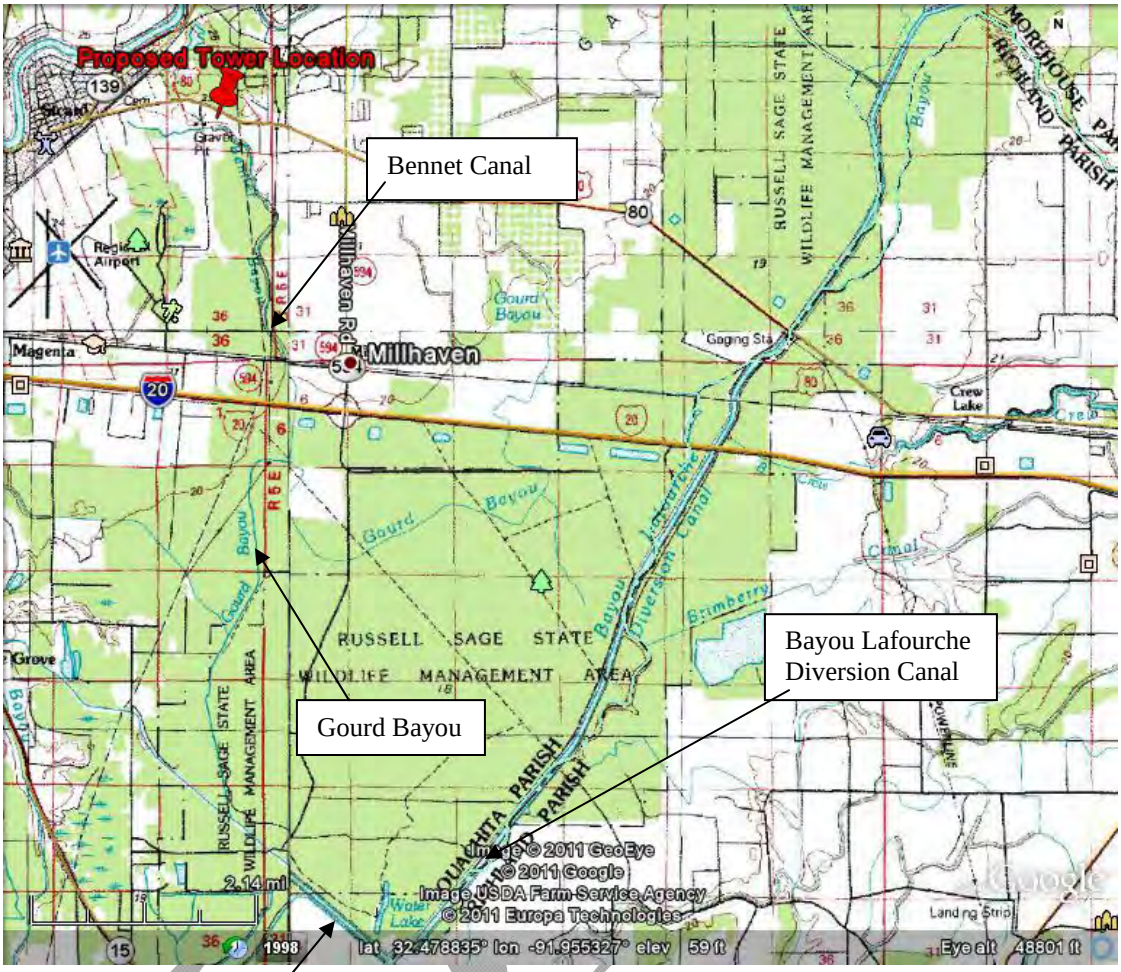
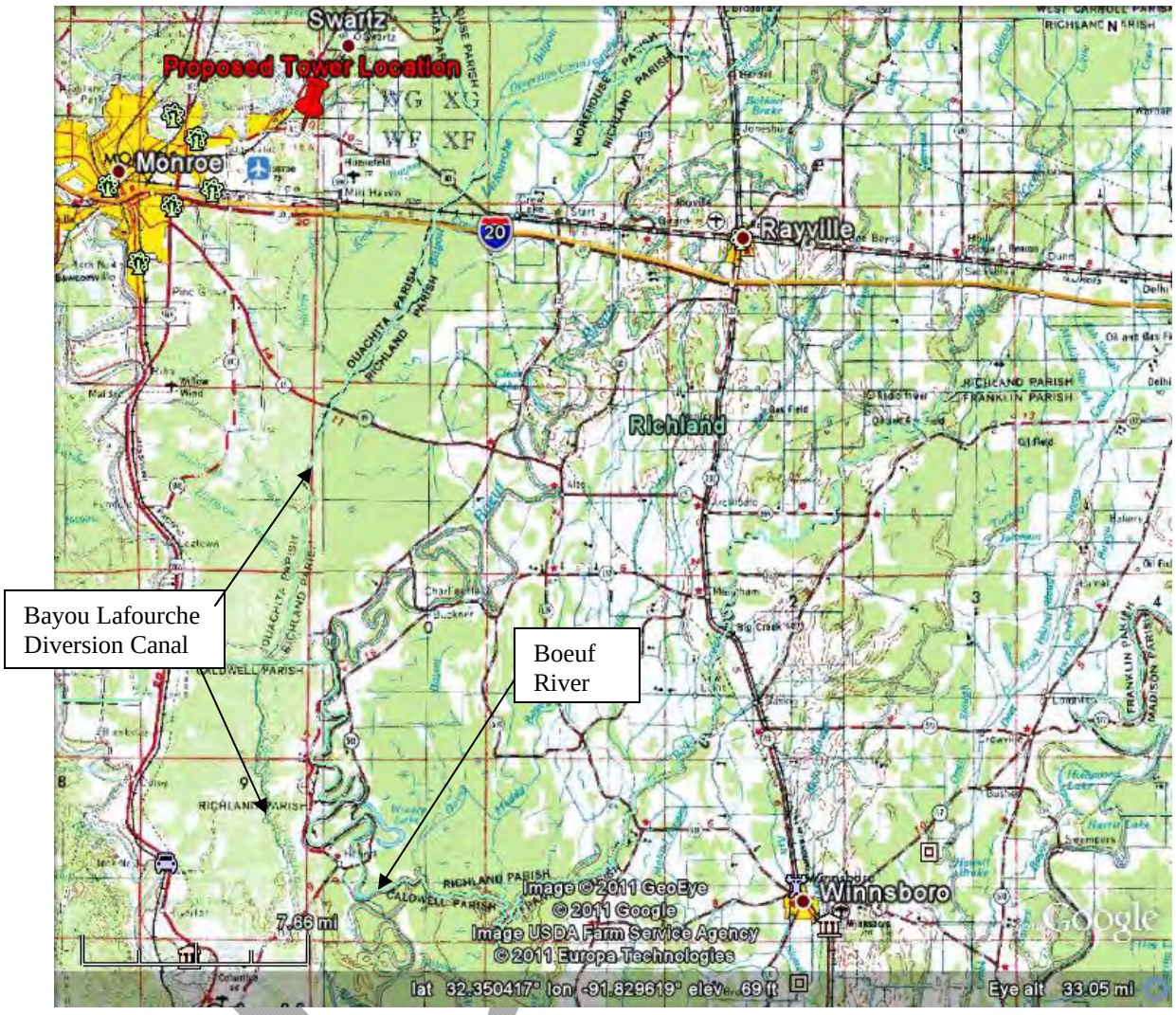


Figure 11: Overall Drainage Map of the Project Area



Alternative 1- No Action: The No Action alternative would not change site drainage or have an effect on the surface water quality of the area.

Alternative 2 - Construction of the DWRS tower at the ULM Agriculture & Auto Science Shop in Monroe, Ouachita, Parish (Proposed Action): During construction/installation of the DWRS tower, there is the potential to impact surface waters through minor erosion and sedimentation. In order to minimize impacts to waters of the U.S., the contractor is required to implement BMPs that meet the LDEQ permitting specifications for storm water discharge regulated under Section 402 of the CWA. This includes designing the site with specific construction measures to reduce or eliminate run-off impacts. Any adverse effects to water quality associated with the construction of the projects would be short term and minimized by the measures described above.

4.3 Noise

Noise is generally described as unwanted sound. The closest noise receptors to the project site are greater than 500 feet from the ULM Agriculture & Auto Shop building. The area immediately surrounding the DWRS project site is rural, with mainly agricultural fields and sparse residential development. Noise levels within and adjacent to the project area would increase during construction activities as a result of construction equipment and vehicular activity.

Alternative 1- No Action: The No Action alternative would have no effect on noise in the project area.

Alternative 2 - Construction of the DWRS tower at the ULM Agriculture & Auto Science Shop in Monroe, Ouachita, Parish (Proposed Action): Construction/installation of the DWRS tower and associated electronic equipment would result in an increase in noise. The increase is expected to be temporary and would not affect any sensitive receptors. The following noise reduction measures should be considered: using a 7 A.M. to 10 P.M., Monday through Friday, construction schedule.

4.4 Traffic and Transportation

The proposed site is located in a sparsely developed, moderate to high traffic volume area.

Alternative 1- No Action: The No Action alternative would have no effect on traffic.

Alternative 2 - Construction of the DWRS tower at the ULM Agriculture & Auto Science Shop in Monroe, Ouachita, Parish (Proposed Action): Construction at the proposed project site would have a temporary effect on traffic by increasing the number of heavy machinery vehicles on U.S. Highway 80. Construction traffic should be closely monitored and controlled as appropriate. All construction activities would be conducted in a safe manner in accordance with the Federal Occupational Health and Safety Administration (OSHA) requirements.

Surface traffic at the project site would be impacted during the construction/installation of the DWRS tower and associated electronic equipment. The contractor would implement traffic control measures as necessary. During construction activities, the construction site would be fenced off to discourage trespassers.

5.0 CUMULATIVE IMPACTS

Cumulative impacts are those effects on the environment that result from the incremental effect of the action when added to past, present, and reasonably foreseeable future actions, regardless of what agency (federal or nonfederal) or person undertakes such other actions. Cumulative effects can result from individually minor but collectively significant actions taking place over a period of time. The impact of Hurricanes Katrina, Rita, Gustav, and Ike in Ouachita Parish resulted in either wind or flood damage to many structures. There have been other projects to

repair existing structures to pre-disaster condition with upgrades to codes and standards and to improve surface water drainage in areas that are prone to flooding. In addition, there are several proposed drainage projects in Ouachita Parish that are currently in the planning stages.

The cumulative impact to the natural resources within Ouachita Parish would be negligible and not likely to adversely affect the Parish as a whole. It is not anticipated that the construction of the proposed DWRS would encourage an increase in the rate of future development, thereby placing increased demands on the already stressed aquifer underlying the proposed project area. In addition, the cumulative radiofrequency radiation exposure from all natural and man-made sources in the project area (including the proposed DWRS) would comply with safety standards for human exposure to radiofrequency radiation.

The human environment of the northeast Louisiana quadrant and Ouachita Parish would be positively impacted by increasing the citizen and first responder awareness level of potential flood and extreme wind hazards associated with tropical storms, hurricanes, and other severe weather conditions within the northeast Louisiana quadrant. On the whole, the human environment of Ouachita Parish and the northeast Louisiana quadrant would benefit from the project.

6.0 CONDITIONS AND MITIGATION MEASURES

Based upon the studies and consultations undertaken in this environmental assessment, several conditions and mitigation measures must be taken by the Applicant prior to and during project implementation.

- LDEQ has stormwater general permits for construction areas equal to or greater than one acre. It is recommended that the LDEQ Water Permit Division be contacted at (225) 219-3181 to determine whether the proposed improvements require one of these permits. The contractor is required to implement BMPs that meet the LDEQ permitting specifications for storm water discharge regulated under Section 402 of the CWA.

- Any changes or modifications to the proposed project would require a revised USACE determination. Off-site locations of activities such as borrow, disposals, haul-and detour-roads and work mobilization site developments may be subject to the Department of the Army regulatory requirements and may have an impact to a Department of Army project.

- If any solid or hazardous wastes, or soils and/or groundwater contaminated with hazardous constituents are encountered during the project, notification to LDEQ's Single-Point-of-Contact (SPOC) at (225) 219-3640 is required. Additionally, precautions should be taken to protect workers from these hazardous constituents.

- The Applicant would be responsible for contacting the USFWS if there is a change in the scope of work, the project necessitates removal of mature pine trees, construction activities have not been initiated within one year, or if any new bald eagle nests are observed in proximity to the proposed project activities during the next nesting season

(October 1 through mid-May). If the projects have not been initiated within one year, follow up consultation is required with the USFWS prior to construction.

- The Applicant should contact the local or regional USFWS office for instructions on the proper collection and disposal of injured or dead birds and removal of nests. If requested, the Applicant would allow USFWS personnel access to the tower site to document and monitor avian mortalities and injuries, monitor bird behavior, assess lighting impacts on migratory birds, and conduct similar research. If the tower is discovered to have adverse effects to migratory birds, (i.e., greater than 10 birds kills per night), the tower must be reported immediately to the USFWS.

- The Applicant would be responsible for contacting the USFWS if there is a change in the scope of work, the project necessitates removal of mature pine trees or if construction activities have not been initiated within one year.

- Construction traffic should be closely monitored and controlled as appropriate. All construction activities would be conducted in a safe manner in accordance with OSHA requirements. To alert motorists and pedestrians of project activities, appropriate signage and barriers would be on site prior to and during construction activities. During construction activities, the construction site(s) would be fenced off to discourage trespassers.

- As required by 14 CFR Part 77, at least 30 days before the earlier of the following dates: (1) the date the proposed construction or alteration is to begin; or (2) the date an application for construction or alteration is to be filed, the Applicant must complete and submit to the FAA Form 7460-1 "Notice of Proposed Construction or Alteration", which may be accessed at: http://www.faa.gov/documentLibrary/media/form/faa7460_1.pdf. The Applicant may also visit https://oeaaa.faa.gov/oeaaa/external/portal.jsp to file this form electronically.

- If archaeological artifacts or features (prehistoric or historic) are discovered during the course of FEMA funded work at the proposed project site, the Applicant must ensure that their Contractor stops work in the vicinity of the discovery and takes all reasonable measures to avoid and minimize harm to the discovery. The Applicant shall inform GOHSEP and FEMA of the discovery and FEMA will deploy an archaeologist to the location to conduct a site condition assessment. The Applicant would not proceed with work until FEMA has completed consultation with the SHPO and other appropriate consulting parties on the treatment of the discovery.

- In addition, if human remains are discovered during the course of FEMA funded work, the Applicant and the Applicant's Contractor are responsible for immediately halting work within the vicinity of the human remains finding. The Applicant will immediately notify GOHSEP, FEMA, the local Police Department, and the local Coroner's Office of the discovery. The local Coroner's Office will assess the nature and age of the human skeletal remains. If the Coroner's Office determines that the human skeletal remains are

older than 50 years of age, the Louisiana Division of Archaeology will take jurisdiction over the remains. Within seventy-two (72) hours, the Applicant will notify FEMA and the Louisiana Division of Archaeology (225-342-8170) of the finding. FEMA will assist, as requested, the Louisiana Division of Archaeology and other interested parties, as necessary, to ensure compliance with the Louisiana Unmarked Human Burial Sites Preservation Act (R.S. 8:671 *et seq.*) and other applicable laws. In addition, the Applicant must afford FEMA the opportunity to comply with the "Human Remains Policy" set forth by the ACHP.

- Any change to the approved scope of work will require reevaluation under Section 106.

- In accordance with applicable local, state, and federal regulations, the Applicant is responsible for acquiring any necessary permits and/or clearances prior to the commencement of any construction related activities.

Failure to comply with these conditions may make part or all of these projects ineligible for FEMA funding.

7.0 PUBLIC INVOLVEMENT

The public will be invited to comment on the proposed action. A legal notice was published in the following newspaper: The Monroe News-Star from January 9 to January 13, 2012. Additionally the Environmental Assessment was made available at the Ouachita Parish Public Library – Main Branch from January 9 to January 28, 2012. The Environmental Assessment was published on FEMA's and the Parish's official websites. A copy of the Public Notice is attached in Appendix E.

8.0 AGENCY COORDINATION

Environmental Protection Agency (EPA)
U.S. Fish and Wildlife Service (USFWS)
U.S. Army Corps of Engineers (USACE)
Louisiana Department of Environmental Quality (LDEQ)
Louisiana Department of Natural Resources (LDNR)
Louisiana Department of Wildlife and Fisheries (LDWF)
USDA Natural Resources Conservation Service (NRCS)
Federal Aviation Administration (FAA)
Louisiana State Historic Preservation Office/r (SHPO)
Tribal Historic Preservation Office/r and/or cultural offices

9.0 LIST OF PREPARERS

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10.0 REFERENCES

Association for the Advancement of Medical Instrumentation in Association with the American National Standards Institute, Inc. *ANSI/AAMI PC69:2007. Active implantable medical devices – Electromagnetic compatibility - EMC test protocols for implantable cardiac pacemakers and implantable cardioverter defibrillators.* April 2007. [Online] Available: http://marketplace.aami.org/eseries/scriptcontent/docs/Preview%20Files%5CPC690807_preview.pdf

City of Monroe Louisiana Code of Ordinances Chapter 23– Noise. [Online] Available: http://search.municode.com/html/14889/MCC_TOC.html

Disaster Center. Conversion table for knots to miles per hour. [Online] Available: http://www.disastercenter.com/convert.htm

Electro Magnetic Field (EMF) – Hazardous to Our Health? [Online] Available: http://emf.mercola.com/sites/emf/emf-dangers.aspx

Environmental Protection Agency. 2006. Nonattainment Status for each Parish by year. [Online] Available: http://www.epa.gov/oar/oaqps/greenbk/anay.html

Environmental Protection Agency. Brownfields. [Online] Available: http://oaspub.epa.gov/enviro/bms_report.get_list?juris_value=&juris_search_type=Beginning+With&juris_type_label=1&state_code=LA&zip_code=&proj_value=&proj_search_type=Beginning+With&rec_value=&rec_search_type=Beginning+With&cfda_type=N

ULL&CFDA_ID=&prop_value=&prop_search_type=Beginning+With&propaddr_name=&propcity_name=&propstate_code=LA

Environmental Protection Agency. EPA Envirofacts. [Online] Available: http://www.epa.gov/enviro/

Environmental Protection Agency. Enviromapper, [Online] Available: http://www.epa.gov/emefdata/em4ef.home

Environmental Protection Agency, Region VI. Sole Source Aquifers. [Online] Available: http://www.epa.gov/region6/water/swp/ssa/maps.htm

Environmental Protection Agency, Region VI. Sole Source Aquifer Presentation from RTOC Meeting in Dallas, TX, March 13, 2008. [Online] Available: http://www.epa.gov/region6/water/swp/ssa/sole-source-aquifer.pdf

Federal Aviation Administration. Obstruction Evaluation/Air Airspace Analysis (OE/AAA). [Online] Available: https://oeaaa.faa.gov/oeaaa/external/portal.jsp

Federal Communications Commission. Radio Frequency Safety. Frequently asked questions. [Online] Available: http://transition.fcc.gov/oet/rfsafety/rf-faqs.html#Q6

Federal Emergency Management Agency. Draft Migratory Bird Treaty Act Memorandum of Understanding Between the Federal Emergency Management Agency and the United States Fish and Wildlife Service Regarding Implementation of Executive Order 13186 "Responsibilities of Federal Agencies to Protect Migratory Birds" [Online] Available: http://www.fema.gov/library/viewRecord.do?id=4143

Federal Emergency Management Agency. *FEMA 361, Second Edition. Design and Construction Guidance for Community Safe Rooms.* Table 4-1 Comparison Table for the Fujita and Enhanced Fujita Scales. August 2008. [Online] Available: http://www.fema.gov/library/viewRecord.do?id=1657

Federal Emergency Management Agency. *Louisiana Flood Recovery Guidance – Using Preliminary Digital Flood Insurance Rate Maps and Flood Insurance Study for Reconstruction.* [Online] Available: http://www.lamappingproject.com/_pdfs/LA%20Final_Prelimnary%20FIRMs%202-11-08.pdf

Federal Emergency Management Agency. Map Service Center. [Online] Available: http://www.msc.fema.gov/webapp/wcs/stores/servlet/Fema WelcomeView?storeId=10001&catalogId=10001&langId=-1

Federal Emergency Management Agency: Preliminary Digital Flood Insurance Rate Maps for Ouachita Parish, dated August 7, 2010.

Geologic Map of Louisiana. [Online] Available: http://geology.about.com/library/bl/maps/bllouisianamap.htm

Google Earth. [Online] Available: http://www.google.com/intl/en/earth/index.html

Health Effects of Electrical Pollution. [Online] Available: http://www.dirtyelectricity.org/health-issues.shtml

Louisiana Department of Environmental Quality. Air quality data. [Online] Available: http://www.deq.louisiana.gov/portal/tabid/37/Default.aspx?Search =non-attainment+areas

Louisiana Department of Environmental Quality. 10/6/09. Leaking Underground Storage Tank list. [Online] Available: http://www.deq.louisiana.gov/portal/LinkClick.aspx?fileticket=F%2f5L1p4Mp3g%3d&tabid=2674

Louisiana Department of Environmental Quality. 1/17/09. Authorized Debris sites. [Online] Available: http://159.39.17.27/Debris_Sites/

Louisiana Department of Environmental Quality. Electronic Data Management System. [Online] Available: http://www.deq.louisiana.gov/portal/tabid/2604/Default.aspx

Louisiana Department of Environmental Quality. 2010 Envirothon Training. Land Use Planning and Its Effect on Groundwater. [Online] Available: www.deq.state.la.us/portal/LinkClick.aspx?fileticket...tabid=2833

Louisiana Department of Environmental Quality. State Brownfields list [Online] Available: http://www.deq.louisiana.gov/portal/tabid/2620/Default.aspx

Louisiana Department of Environmental Quality. Voluntary Remediation Properties List. [Online] Available: http://www.deq.louisiana.gov/portal/Portals/0/RemediationServices/VRP/RPform_5226_current.pdf

Louisiana Department of Natural Resources. SONRIS site. [Online] Available: http://sonris-www.dnr.state.la.us/www_root/sonris_portal_1.htm

Louisiana Geological Survey. *Earthquakes in Louisiana.* Public Information Series No. 7. June 2001. [Online] Available: http://www.lgs.lsu.edu/deploy/uploads/7earthquakes.pdf

Louisiana Sparta Ground Water Commission. [Online] Available: http://www.spartaaquifer.com/index.php?option=com_content&view=article&id=94:response-of-the-sparta-aquifer-to-heavy-pumping&catid=48&Itemid=115

Louisiana State University. Louisiana Coastal Law. [Online] Available: http://www.lsu.edu/sglegal/pdfs/lcl_30.pdf

Michigan State Government. Federal Aviation Regulation, Part 77 Basics. [Online] Available: http://www.michigan.gov/documents/FAA-Part77-BASICS_105811_7.pdf

National Oceanic and Atmospheric Administration. NOAA Administrative Order Series 216-6, *Environmental Review Procedures for Implementing the National Environmental Policy Act*, May 20, 1999. [Online] Available: http://www.nepa.noaa.gov/NAO216_6.pdf

National Oceanic and Atmospheric Administration. Coastal Barrier Resources Act. [Online] Available: http://www.csc.noaa.gov/cmfp/reference /Coastal_Barrier Resources_Act.htm

National Weather Service. JetStream-Online School for Weather. [Online] Available: http://www.srh.noaa.gov/jetstream/doppler/how.htm

National Weather Service. Map of United States Doppler Radar Sites. [Online] Available: http://www.spc.noaa.gov/climo/online/rda/

RF Safety Solutions. Summary of IEEE Standard C95.1-2005. [Online] Available: http://www.rfsafetysolutions.com/RF%20Radiation%20Pages/IEEE_Standards.html

Sensor Environmental LLC. *Supplemental Environmental Assessment (EA) of the Electromagnetic Effects of Operating Weather Service Radar – 1988, Doppler (WSR-88D) to Serve Coastal Washington at Scan Angles Below +0.5 Degree.* September 2011. [Online] Available: http://www.wrh.noaa.gov/wrh/washington_coast_doppler_radar/_Final_EA_Coastal_WA_WSR-88D_Lower_Scan_Angle.pdf

Southeastern Universities Research Association. Chart of the Electromagnetic Spectrum. [Online] Available: http://astronomy.nmsu.edu/cwc/Teaching/ASTR308/Student-Talks/SURA_Electromagnetic_Spectrum_Full_Chart.pdf

U.S. Census Bureau. American Fact Finder. [Online] Available: http://factfinder.census.gov/home/saff/main.html?_lang=en

U. S. Department of Agriculture. Soil Conservation Service. [Online] Available: http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx

U.S. Fish and Wildlife Service. Bald Eagle Management Guidelines and Conservation Measures. The Bald and Golden Eagle Protection Act. [Online] Available: http://www.fws.gov/midwest/Eagle/guidelines/bgepa.html

U.S. Fish and Wildlife Service. Endangered species data. [Online] Available: http://www.fws.gov/endangered/

U.S. Fish and Wildlife Service. Fish and Wildlife Coordination Act. [Online] Available: http://www.fws.gov/laws/lawsdigest/fwcoord.html

U.S. Fish and Wildlife Service. IPaC – Information, Planning, and Conservation System. [Online] Available: http://ecos.fws.gov/ipac/wizard/trustResourceList!prepare.action

U.S. Fish and Wildlife Service. Migratory Bird Program. Service Guidance on the Siting, Construction, Operation, and Decommissioning of Communications Towers. [Online] Available: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html

U.S. Geological Service. National Map Viewer. [Online] Available: http://nmviewogc.cr.usgs.gov/viewer.htm

U.S. Government Printing Office. Code of Federal Regulations – Title 44. Emergency Management and Assistance. October 1, 2010.

APPENDIX A

DWRS ELECTRONIC EQUIPMENT INFORMATION AND SPECIFICATIONS, ELECTROMAGNETIC SPECTRUM CHART, AND VIEW OF APPROXIMATE 2,060 FOOT RADIUS FROM THE PROPOSED PROJECT LOCATION

Doppler Weather Radar Systems

DWSR-8501S

The DWSR-8501S is the world's most powerful S-Band (10 cm) Doppler weather surveillance radar, with more radiated power than any other commercially available S-Band weather radar.

The DWSR-8501S provides the best possible clutter suppression and S-Band range performance for observing multiple long-range weather phenomena. Precise Doppler processing eliminates virtually all false echoes and ground clutter from the radar screen, leaving a clean and true picture of the rain and wind at the longest practical, useful ranges.

The system sets a new standard for S-Band radar performance and continues EEC's tradition of leadership in the weather radar industry that spans over 35-years. Standard features include a precise solid-state high current modulator, digital receiver, advanced radar motion control system, enhanced BITE functionality, plus a choice of full-featured control and display interfaces.

The DWSR-8501S transmitter provides 850 kW peak RF power pulse with durations of 0.2, 0.4, 1.0 and 2.0 microseconds, providing excellent weather detection at the maximum range in all modes. The transmitter radiates in staggered PRF modes at 3:2, 4:3 and 5:4 ratios allowing dual PRF sampling by the radar signal processor to produce unambiguous velocity values of 128 m/s in short pulse, once again...the best in the industry.

Virtually indestructible design, rugged construction and experience with more than 950 radar installations ensures that the DWSR-8501S system is ready for continuous 24/7 unattended operation anywhere on Earth, both at fixed sites or in transportable configurations. Precision, stability, reliability and value are built into the DWSR-8501S and every EEC radar system.

DWSR-8501S System Advantages

- Long-life Magnetron technology
- Advanced radar motion control system provides better spatial resolution resulting in more accurate data
- Sophisticated BITE with user-defineable system monitoring capability
- Built for unattended remote operations 24/7
- Optional automated preventative maintenance features
- Industry leading 16-bit signal processor
- Patented clutter suppression technology >46 dB
- Solid State modulator
- SIDPOL™ option available
- Flexible configuration options that maximize available bandwidth on any standard TCP/IP network

Specifications

DWSR-8501S

SYSTEM	DWSR-8501S
Operating Frequency	2700-3000 MHz
Pulse Width	0.4 – 2.0 µsec
Range Resolution @ PW	as low as 25m
Pulse Repetition Frequency	200-2400 Hz, user selectable
Range (Unambiguous) @ PW	up to 480 km
Typical Operational Range	240 km
Velocity (Unambiguous) @ Single PRF (1180 PPS – 2800 MHz)	up to 32 m/s (64 knots)
Velocity (Unambiguous) @ Dual PRF 5:4 (1180 PPS – 2800 MHz)	128 m/s (249 knots) or more
Sensitivity – Reflectivity	as low as 7.5 dBz at 220 km (120 NM)
Sensitivity – Rain Rate	as low as 0.11 mm/h at 220 km (120 NM)
Clutter Suppression Capability	> 46 dB (EEC patented technology)
Data Output	UZ, Z, V, SW (optional dual polarization moments ϕDP, KDP, ZDR, ρHV)
ANTENNA / PEDESTAL	
Type	Parabolic, Prime Focus Reflector
Reflector Diameter	4.2m (standard) – other sizes available
Gain – minimum	> 39.5 dB
Half Power Beam Width (typical)	1.83°
Polarization	Linear Horizontal Feed Horn (optional Linear Horizontal / Vertical Orthogonal Feed Horn)
Angle Span (Azimuth)	0 to 360° continuous
Angle Span (Elevation)	-2 to +90°
Angular Positioning Accuracy	+ 0.1°
Scanning Speed	0 (stopped) to 6 rpm
RADOME	
Size	5.5 meter (typical)
Type	Sandwich Foam Core or Solid Laminate
Transmission Loss (one way)	< 2.5 dB or better
TRANSMITTER	
Type	High-Power Coaxial Magnetron
Peak Power	850 kW typical
RECEIVER	
Type	Superheterodyne, Single Down Conversion with Image Reject Mixing
Minimum Discernable Signal	as low as -114 dBm
Noise Figure	< 2.5 dB
Linear Dynamic Range	up to 105 dB
DIGITAL RECEIVER / SIGNAL PROCESSOR	
Type	Modular, multi-channel Digital Receiver, Signal Processor
Intermediate Frequency	60 MHz
IF Sampling	Multi-channel, up to 70 MHz, 16 bits each per polarization
Maximum No. of Processed Range Bins	up to 4096
Minimum Processing Resolution	as low as 25m
Processing Mode	Pulse Pair or Discrete Fourier Transform (DFT/FFT)
Clutter Filters	up to 16 Time Domain, > 16 Frequency Domain
MAINTENANCE SOFTWARE	EDGE 5.3 or better
Computer System	Commercial Off-the-Shelf PC, dual or quad core processor, 2.8 GHz, 4GB RAM
Operating System	Linux
METEOROLOGICAL USER SOFTWARE	EDGE 5.3 or better
Computer System	Commercial Off-the-Shelf PC, dual or quad core processor, 3.0 GHz, 4GB RAM
Operating System	Linux
Standard Products	PPI, RHI, BASE, CAPPI, Pseudo-CAPPI, HMAX, LRA, X-SEC, VIL, ETOPS, EBASE, ACM, VAD, VVP, VVP2, UWT
Optional Product Groups	Severe Weather (Forecasting + Warning), Hydrological, Aviation, Dual Polarization

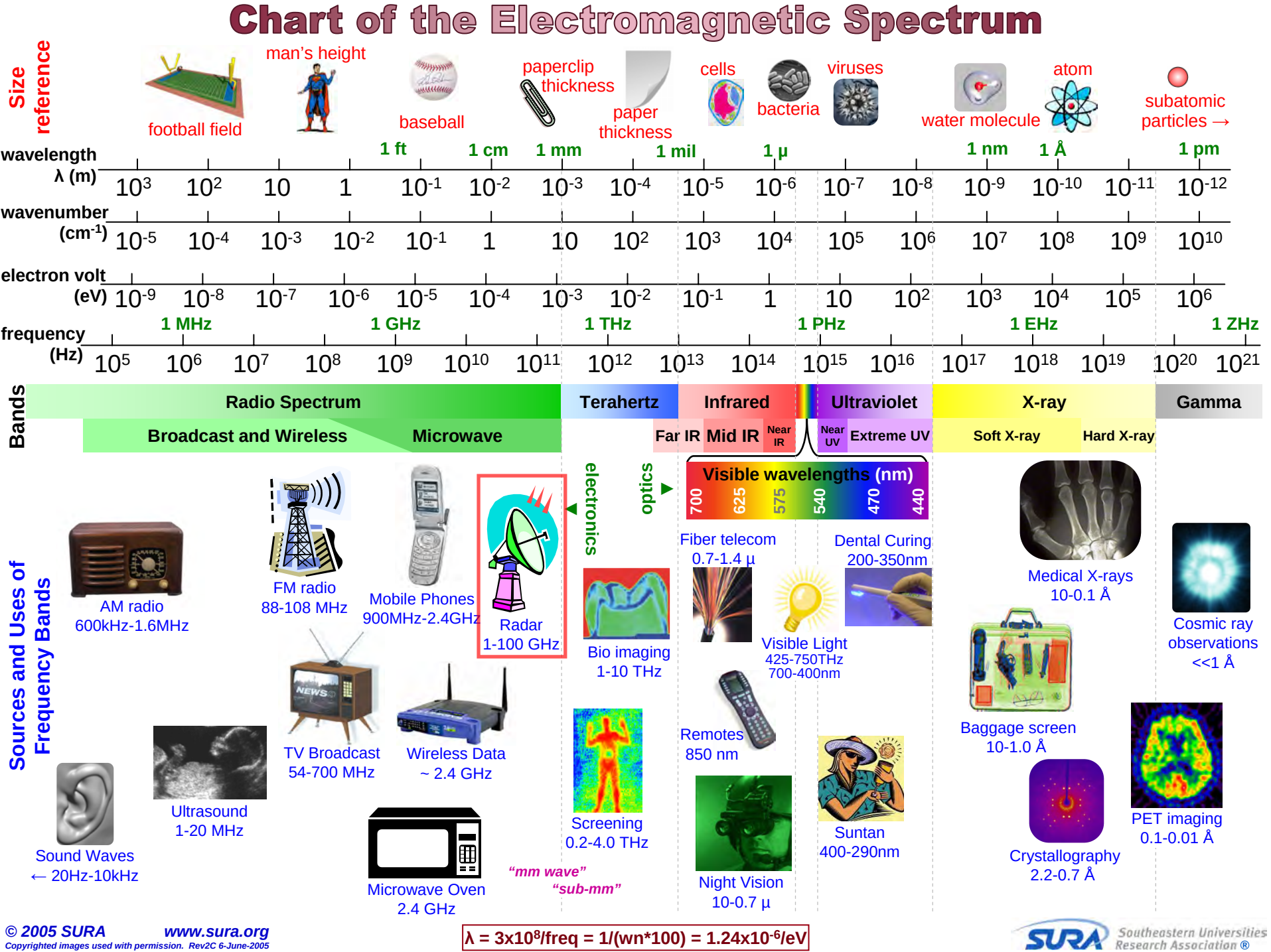
Enterprise Electronics Corporation

128 S. Industrial Blvd
Enterprise, AL 36330
P: 334.347.3478
F: 334.393.4556
sales@eecradar.com
www.eecradar.com

International Sales

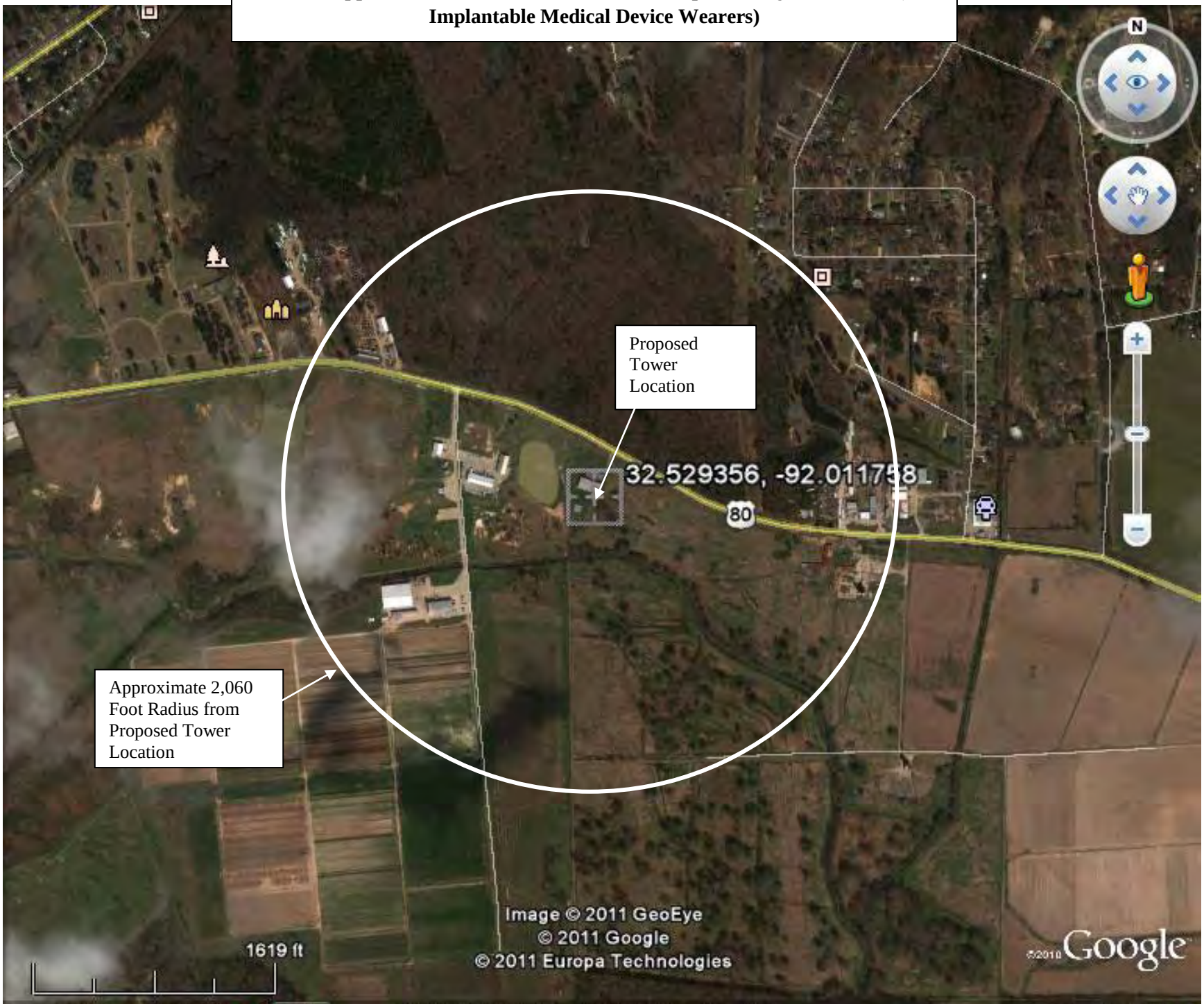
5801 Lee Highway
Arlington, VA 22207
P: 703.533.7291
F: 703.533.3190
sales@eecradarintl.com

Chart of the Electromagnetic Spectrum



$\lambda = 3\times10^{8}/\text{freq} = 1/(\text{wn}*100) = 1.24\times10^{-6}/\text{eV}$

View of Approximate 2,060 Foot Radius from Proposed Project Location (for Implantable Medical Device Wearers)



APPENDIX B

SITE PHOTOGRAPHS

Photo 1 – View of ULM Agriculture & Auto Science Shop from the proposed Radar tower location, facing north.

Photo 2 - View of ULM Agriculture & Auto Science Shop from the proposed Radar tower location, facing northwest.

Photo 3 - View of the proposed tower location from the ULM Agriculture & Auto Science Shop, facing south.

Photo 4 - View of the west side of the ULM Agriculture & Auto Science Shop, facing northeast.

Photo 5 - View of the front of the ULM Agriculture & Auto Science Shop, facing south.

Photo 6 - View of the east side of the ULM Agriculture & Auto Science Shop, facing southwest.

Photo 7 - View of the rear of the ULM Agriculture & Auto Science Shop, facing northeast.

Photo 8 - View of the proposed tower location from the ULM Agriculture & Auto Science Shop, facing southeast.

Photo 9 - View of the proposed project area, facing east.

Photo 10 - View of buildings near the ULM Agriculture & Auto Science Shop located west of the pond, facing west.

APPENDIX C

PROPOSED PROJECT JUSTIFICATION ANALYSIS

Each year, thousands of lives are lost or negatively impacted by natural disasters due to an adequate warning system either not being available, being inadequate, or not being received with adequate lead time for people to evacuate or take shelter in a safe place. Effective early warning systems for natural hazards not only save lives; they also protect individuals' livelihoods and entire communities. Hurricanes Katrina and Rita struck Louisiana less than one month apart and severely impacted the State and ability its ability to respond effectively to the needs of its citizens. Many families were displaced and hundreds of lives were lost.

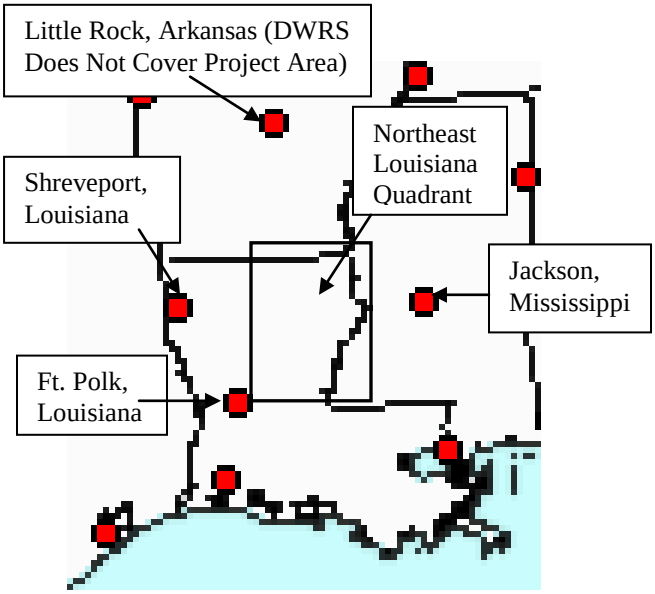
In the northeast Louisiana quadrant, more than 390 severe weather events were reported during 2008 and 2009, including an F2 tornado ("Considerable Damage" with 3-second gust speed of 113 – 157 miles per hour [mph]) in Ouachita Parish on April 9, 2009, 85 knot (97.9 mph) winds in Tensas Parish on April 4, 2008, 2.75-inch hail in Morehouse Parish on March 15, 2008, the passage of Hurricane Gustav in early September 2008, and numerous reports of flooding and flash flooding throughout the region in the fall of 2009. During such events, lives may be lost and property may be damaged or destroyed. Providing adequate warning to the public of impending severe weather events is critical in reducing loss of life and property.

In the State of Louisiana, there is currently uneven capability in identifying impending severe weather events, and consequently, to issue and receive timely and adequate severe weather warnings for local decision makers and the public in the various regions. As a result, people living and working in the State are unevenly protected from the onset of severe weather events and natural disasters.

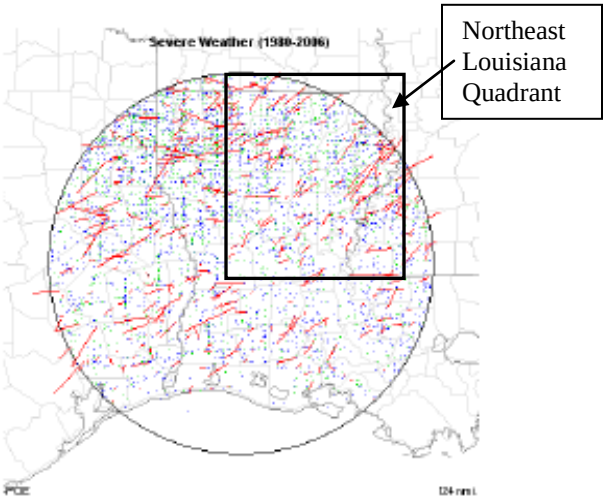
When an emergency is pending, rapid access to information is critical. One of the key tools to assure that up to the minute critical weather information is available is Doppler Weather Radar. According to the Applicant, the current Doppler Weather coverage in Louisiana is fragmented as evidenced by the fact that in the northern part of the State, Doppler Weather coverage is "poor or non-existent", which may result in this region's residents not receiving sufficient warning to prepare for severe weather events.

According to the Applicant, the existing DWRSs at the NWS Forecast Offices in Shreveport, Louisiana, Ft. Polk, Louisiana, and Jackson, Mississippi provide poor coverage of the proposed project area. Figure C-1 depicts existing NWS Doppler Weather coverage for the northeast Louisiana quadrant. The DWRS coverage maps below depict all severe weather reports during the years 1980-2006. Blue dots represent damaging wind, green dots represent large hail, and red dots represent tornadoes.

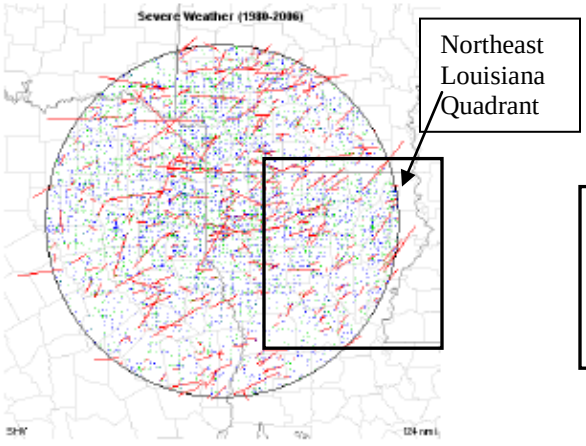
Figure C-1 Existing NWS Doppler Weather Radar Coverage Maps for the Northeast Louisiana Quadrant



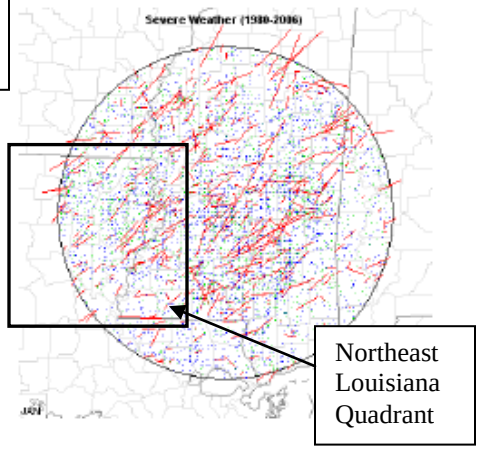
Existing Louisiana Area DWRS Locations



Ft. Polk, LA DWRS Coverage Map



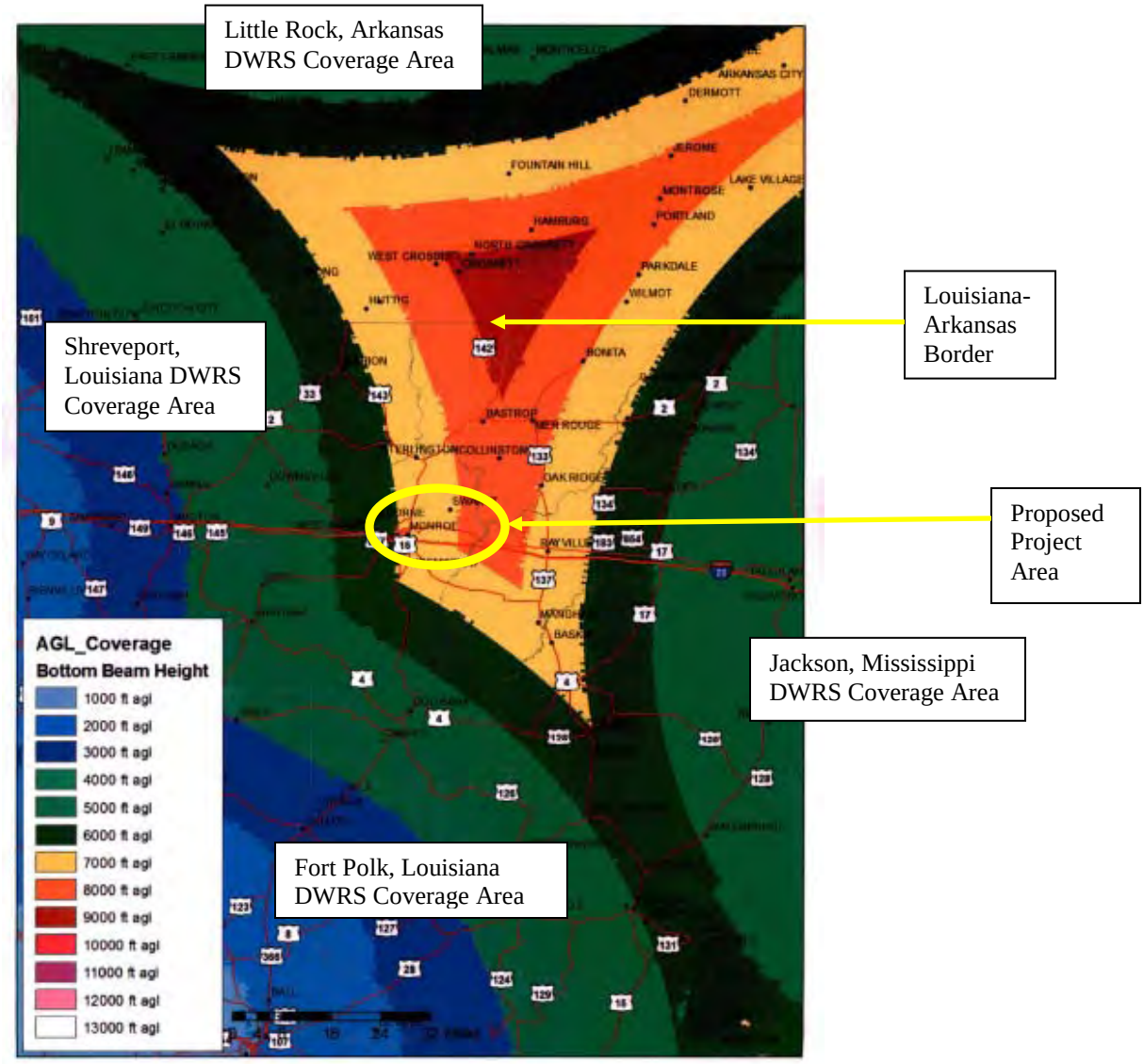
Shreveport, LA DWRS Coverage Map



Jackson, Mississippi DWRS Coverage Map

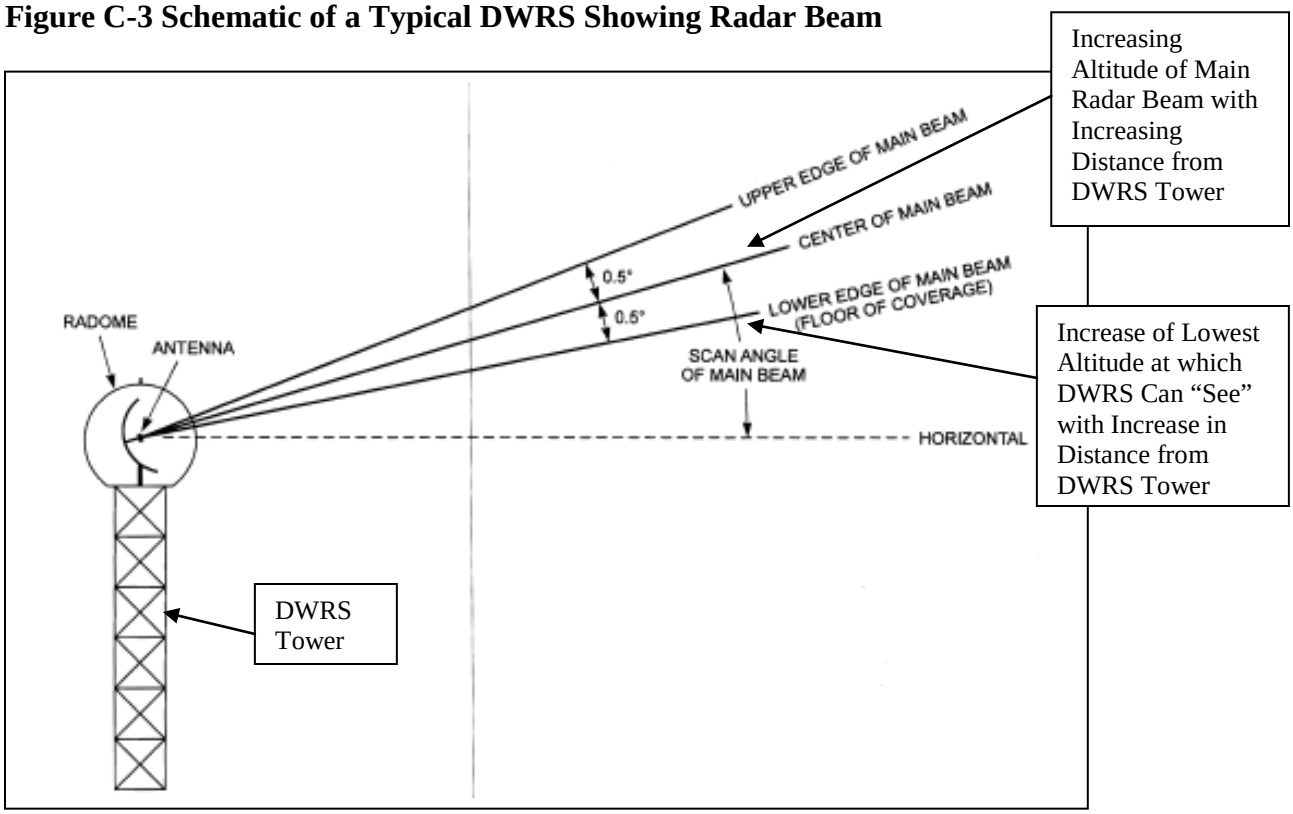
Although the existing radar coverage in the northeast Louisiana quadrant appears to be adequate, the Applicant has provided additional information regarding the quality of the radar coverage in the region. Figure C-2 depicts the lowest elevations that the combined existing NWS WSR-88D radar systems in the proposed project area (Ft. Polk, Louisiana, Shreveport, Louisiana, Jackson, Mississippi, shown above, and also Little Rock, Arkansas to the north, which does not cover the proposed project area) can "see" as measured in feet AGL in the northeast Louisiana area.

Figure C-2 Aerial View of Radar AGL Coverage for the Northeast Louisiana Quadrant



Due to the upward tilt of the radar antenna, the positive scan angle from the horizontal of the main radar beam and the curvature of the earth, the lowest altitude that radar can "see" increases as the distance from the tower approaches the outer edge of the radar's scan area (Figure C-3). Under normal circumstances, a typical DWRS operates at a +0.5 degree minimum scan angle above horizontal.

Figure C-3 Schematic of a Typical DWRS Showing Radar Beam



Note: The beam angle depicted in this schematic is for illustration only and does not necessarily indicate the beam angle that would be utilized by the proposed DWRS discussed in this EA if it is constructed.

As depicted in Figures C-1 and C-2, the northeast Louisiana quadrant is located within the outermost portion of the coverage areas of each of the three regional DWRSs which cover the region. Because of this, the lowest elevations the combined existing radars in the northeast Louisiana quadrant can "see" range from 5,000 feet AGL (dark green) to 9,000 feet AGL (dark red). Figure C-2 indicates the altitude of the bottom of the radar beam, which is the lowest level at which storm events are detectable with the existing radar coverage. Any storms, tornadoes, or other adverse weather systems located below this elevation range are currently not visible using the existing radar coverage. The weather events of greatest interest to meteorologists and those that could potentially cause the most property damage and be the most hazardous to human life safety tend to occur within a few thousand feet above the ground surface. The proposed DWRS site at the ULM location would provide the ability for meteorologists to be able to see potential storm activity closer to the ground, such as storms that are capable of producing a tornado at a level lower than the currently available 5,000 feet to 9,000 feet AGL range in the northeast Louisiana quadrant.

The proposed project location was selected by the Louisiana GOHSEP because ULM is strategically located in the center of the area with poor Doppler Weather coverage. ULM has facilities that are suitable for a DWRS site and faculty as well as students who are knowledgeable about DWRS operation and maintenance, and has a source of additional labor from the students majoring in Louisiana's only atmospheric sciences degree program.

The Applicant has received a “no objection” letter from the NOAA NWS Forecast Office in Shreveport, Louisiana, which is the location of the DWRS that currently serves the Monroe, Louisiana area, for the proposed construction of the new DWRS at the ULM location. This letter also states that the NWS no has future plans to add additional DWRS in the northeast Louisiana quadrant. A copy of this letter is presented in Appendix D.

The proposed DWRS in Monroe, Louisiana would enhance severe weather identification of, and therefore, subsequent emergency warning efforts prior to and during severe weather events, and would provide enhanced severe weather warning capability to the northeast Louisiana quadrant and ensure the availability of up to the minute hazard related information and data for this region. While it is the responsibility of the NWS to provide severe weather warnings to the public, the proposed ULM DWRS would provide real time data to emergency managers’ and sheriffs’ offices. By having real time data, emergency managers would then prepare for the severe weather event and communicate the necessary action steps to manage effectively and efficiently. First responders such as emergency managers and sheriffs would also benefit from the additional lead time afforded by real time information provided by the proposed ULM DWRS.

APPENDIX D

AGENCY CONSULTATION

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL WEATHER SERVICE FORECAST OFFICE
5655 Hollywood Avenue
Shreveport, LA 71109
www.srh.noaa.gov/shv/

September 14, 2011

Casey Levy
415 North 15th Street
Baton Rouge, LA 70802

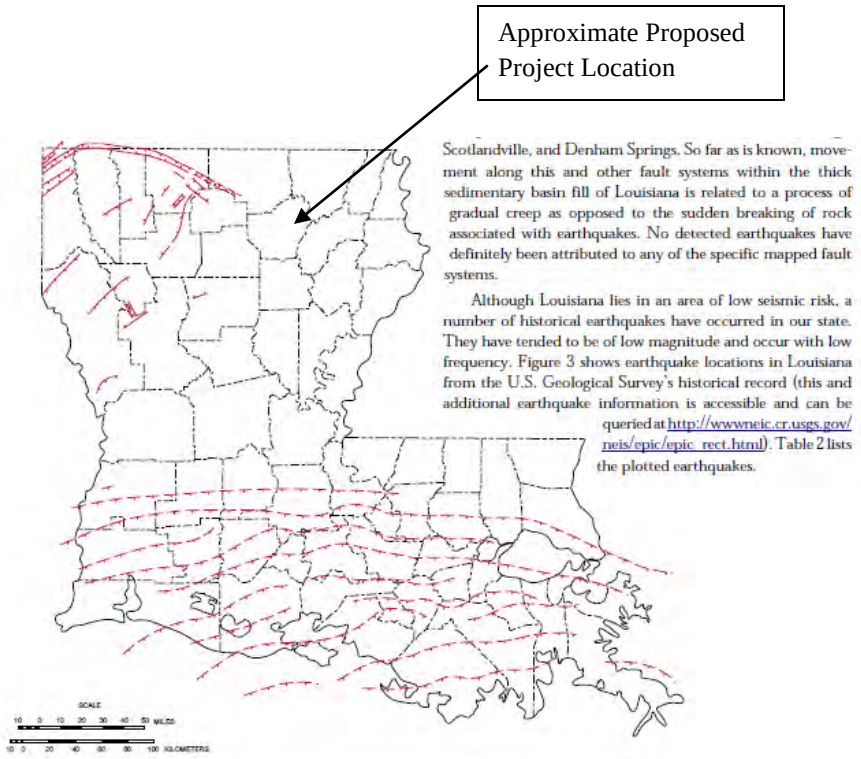
Mr. Levy:

The National Weather Service provides basic radar coverage to the Monroe, LA area, and has no future plans to add additional radars.

We have been advised that ULM is working to acquire and install a Doppler radar and the National Weather Service does not have any reason to object the installation of a radar in that location.

Sincerely,

Armando L. Garza
Meteorologist In Charge
National Weather Service
Shreveport, LA.



Scotlandville, and Denham Springs. So far as is known, movement along this and other fault systems within the thick sedimentary basin fill of Louisiana is related to a process of gradual creep as opposed to the sudden breaking of rock associated with earthquakes. No detected earthquakes have definitely been attributed to any of the specific mapped fault systems.

Although Louisiana lies in an area of low seismic risk, a number of historical earthquakes have occurred in our state. They have tended to be of low magnitude and occur with low frequency. Figure 3 shows earthquake locations in Louisiana from the U.S. Geological Survey's historical record (this and additional earthquake information is accessible and can be queried at http://wwwneic.cr.usgs.gov/neis/epic/epic_rect.html). Table 2 lists the plotted earthquakes.

Figure 2. Generalized subsurface faults in Louisiana. North Louisiana faults are from Gulf Coast Association of Geological Societies and American Association of Petroleum Geologists (1972; used with permission). The dashed lines in south Louisiana, rather than representing discrete faults, mark the approximate northernmost edges of different zones of growth faults having different ages of formation (from Murray 1961; used with permission of the author).

Geologic Faults in Louisiana

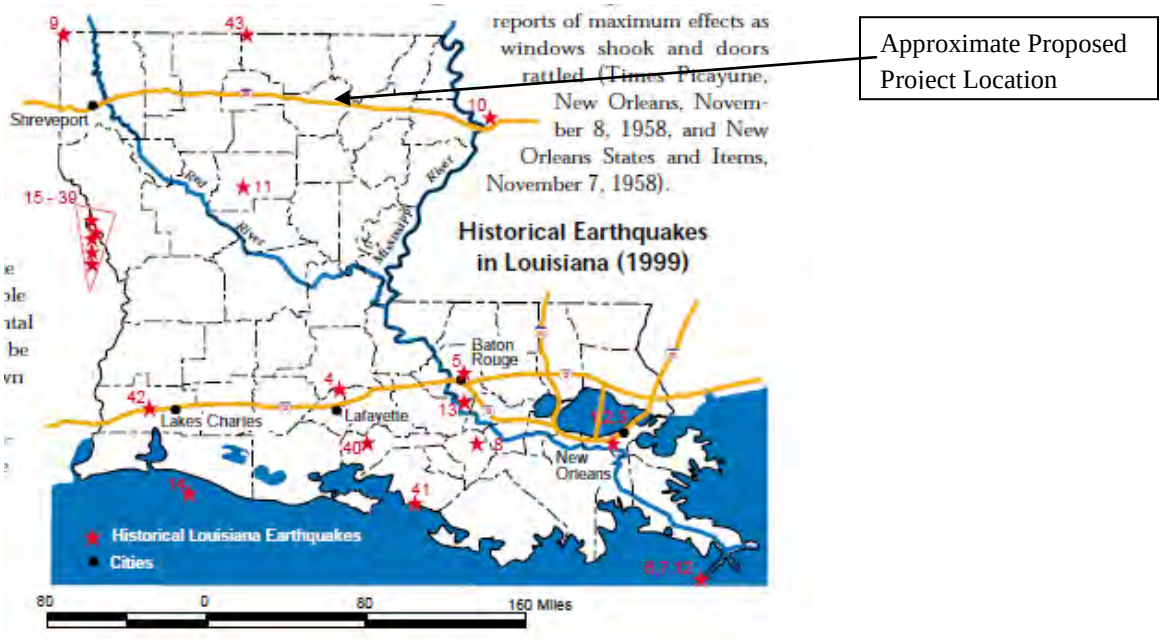
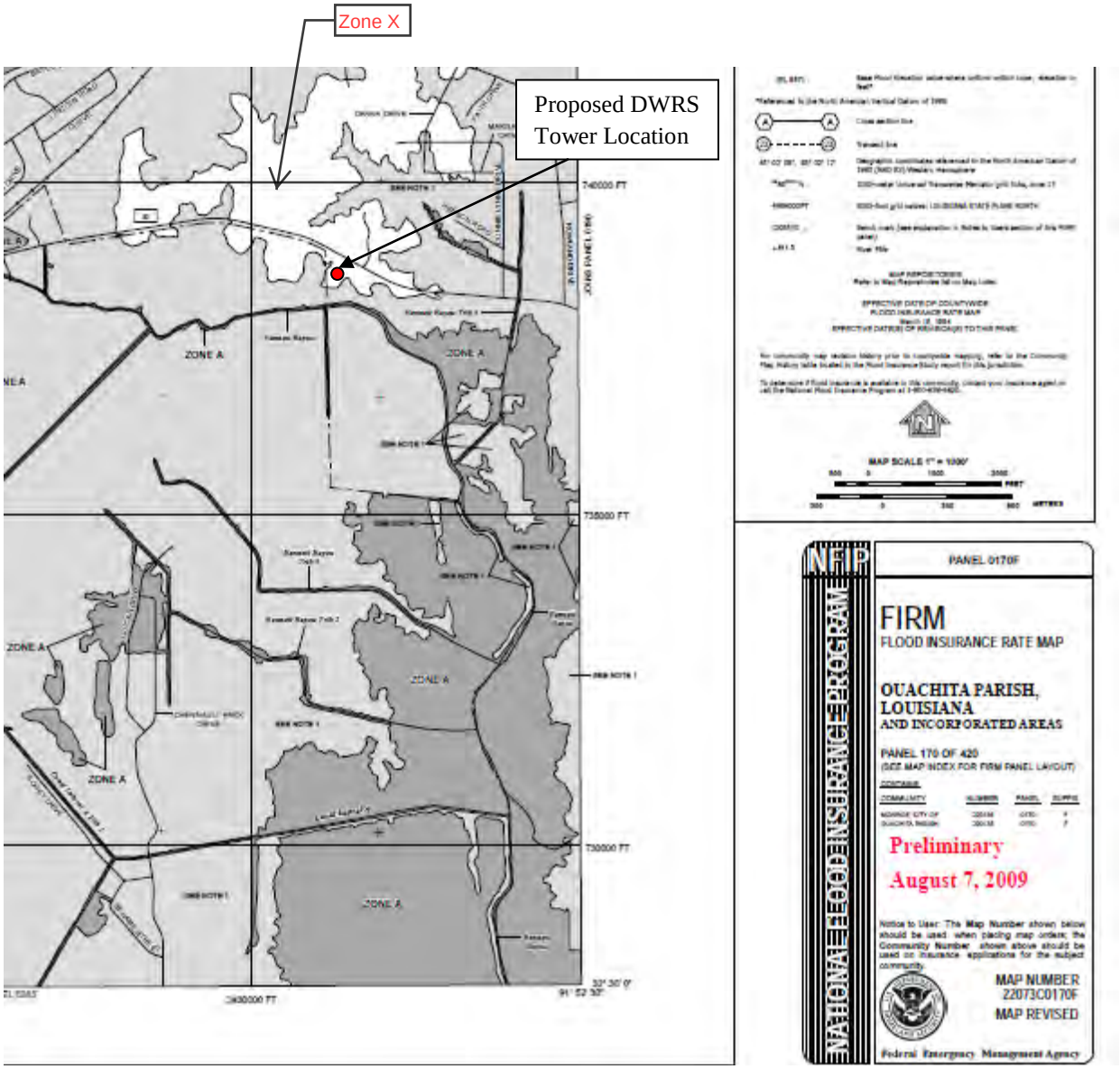


Figure 3. Historical felt earthquake locations in and around Louisiana, from the U.S. Geological Survey's historical record (http://wwwneic.cr.usgs.gov/neis/eptc/epic_rect.html).

Historical Earthquake Locations in Louisiana


Zone X
Proposed DWRS Tower Location
ZONE A
740000 FT
730000 FT
720000 FT
MAP SCALE 1" = 1000'
NATIONAL FLOOD INSURANCE PROGRAM
PANEL 0170F
FIRM
FLOOD INSURANCE RATE MAP
OUACHITA PARISH, LOUISIANA
AND INCORPORATED AREAS
PANEL 170 OF 420
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)
Preliminary
August 7, 2009
MAP NUMBER
22073C0170F
MAP REVISED
Federal Emergency Management Agency

From: Rohrer, Laurel (CTR)
Sent: Thursday, June 23, 2011 9:15 AM
To: 'regulatory@usace.army.mil'; 'kevin.norton@la.usda.gov'; 'mick.tamara@epamail.epa.gov'; 'beth.dixon@LA.gov'; 'Jamie.Phillippe@LA.gov'; 'karl.morgan@la.gov'
Subject: Solicitation of Views - Construction of Doppler Radar Tower, Monroe, Ouachita Parish, LA
Attachments: 1603-0389 ULM Doppler Radar Tower Scoping letter SOW.doc

U.S. Department of Homeland Security
Federal Emergency Management Agency
FEMA-DR 1603/1607 LA
1 Seine Ct, 4th Floor, Room 4049
New Orleans, LA 70114

June 23, 2011

MEMORANDUM TO: See Distribution

SUBJECT: Scoping Notification/Solicitation of Views

To Whom It May Concern:

The Department of Homeland Security's Federal Emergency Management Agency (FEMA) is mandated by the U.S. Congress to administer Federal disaster assistance pursuant to the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act), PL 93-288, as amended. The Stafford Act authorizes FEMA's Hazard Mitigation Grant Program to provide funds to states and local governments to implement long-term hazard mitigation measures after a major disaster declaration.

The attached scope of work and photographs correspond to a proposed project for which FEMA funding has been requested.

On August 29, 2005, storm surge caused by Hurricane Katrina inundated large portions of Louisiana causing extensive flood and wind damage to structures in Ouachita Parish. The proposed installation of the Doppler weather radar system and tower will improve the Louisiana Governor's Office of Homeland Security and Emergency Preparedness (GOHSEP's) ability to alert the residents of the rural area located within and surrounding Monroe, Louisiana area of impending hazardous weather conditions. The location of the proposed radar tower is approximately 30-40 feet south of the corner of the existing ULM Agriculture & Auto Science Shop, which is located at 807 U.S. Highway 80 East, Monroe, Louisiana (32.529356, -92.011758).

To ensure compliance with the National Environmental Policy Act (NEPA), Executive Orders (EOs), and other applicable Federal regulations, we will be preparing a Record of Environmental Consideration (REC) or an Environmental Assessment (EA). To assist us in preparation of the REC or EA, we request that your office review the attached document for a determination as to the requirements of any formal consultations, regulatory permits, determinations,

or authorizations.

Please respond within 30 calendar days of the date of this scoping notification. If our office receives no comments at the close of this period, we will assume that your agency does not object to the project as proposed.

Comments may be faxed to (504) 762-2205, emailed to Laurel.Rohrer@associates.dhs.gov or mailed to the attention of Laurel Rohrer, Environmental Department, at the address above.

For questions regarding this matter, please contact Melanie Sibley, Environmental Specialist at (504) 762-2205.

Tiffany Winnfield,
Designated Environmental Liaison Officer

Distribution: LDEQ, USEPA, USACE, LWFD, NRCS

Laurel Rohrer, CFM, CHMM, REM (CTR)
URS Corporation, Contractor
NEPA Environmental Specialist - Hazard Mitigation Grant Program
Federal Emergency Management Agency
4th Floor, Room 4049, FEMA Louisiana Recovery Office
1 Seine Court, 4th Floor
New Orleans, LA 70114
Office: (504) 762-2205
Cell: (540) 842-3300
Fax: (504) 762-2353
Email: laurel.rohrer@associates.dhs.gov

The proposed project is to install/construct a new Doppler weather radar system and support tower near the University of Louisiana at Monroe (ULM) Agriculture & Auto Science Shop in Monroe, Louisiana. Please see the scope of work below.

Damage Description:

On August 29, 2005, storm surge caused by Hurricane Katrina inundated large portions of Louisiana causing extensive flood and wind damage to structures in Ouachita Parish. The proposed installation of the Doppler weather radar system and tower will improve the Louisiana Governor's Office of Homeland Security and Emergency Preparedness (GOHSEP's) ability to alert the residents of the rural area located within and surrounding Monroe, Louisiana area of impending hazardous weather conditions.

Scope of Work:

The proposed action at this location is a part of a statewide alert and warning system upgrade project. The scope of work proposed for the other locations involves adding equipment to existing towers or on rooftops, which do not involve ground disturbing activities.

The scope of work for the proposed action at the ULM location is to construct/install a new Enterprise Electronics Corporation DWSR-8501S Doppler Weather Radar System, a local maintenance work station, radar site control and data processing server, simultaneous dual polarization package, and a support tower to support the radar pedestal and dish and a 41-foot covering radome, all of which will be located approximately 30-40 feet south of the corner of the existing ULM Agriculture & Auto Science Shop, which is located at 807 U.S. Highway 80 East, Monroe, Louisiana (32.529356, -92.011758). The tower will be free standing and will not require guy wires. Ground disturbance will be required for this project. The dimensions of ground disturbance for the proposed project, as provided by the applicant, will be approximately 3 feet deep, 20-25 feet long, and 20-25 feet wide for a solid tower foundation. Alternatively, four separate pylons (typically 5 feet by 5 feet), installed to a depth of 8 feet or more, may be required, based on findings of a licensed engineer specializing in soil analysis for these types of installations. The proposed project area is currently undeveloped land adjacent to an existing steel structure. The project area is covered with maintained grass. According to the applicant, no trees will be removed as part of the proposed project. A security fence will be installed around the tower. According to the applicant, the height of the tower will be between 60 to 70 feet, which is less than a farm silo or municipal water tower. Photos of existing radar towers at other locations are attached for determining the visual effect of the proposed work. The proposed tower will use existing utilities already at the site. According to the applicant, Enterprise Electronics Corporation has stated that there will be typical construction noise during equipment installation and that no emissions will occur to the atmosphere.

The attached figures depict the proposed project location, the specific tower site location in relation to the adjacent structure, a proposed project area wetland map, and a photo of the proposed tower location in its current state.

Proposed Project Location Map – Monroe, Louisiana

Proposed Project Vicinity

Anticipated Location of the Proposed Doppler Radar Tower (Provided by the Applicant)

Photo of Proposed Doppler Radar Tower Location – Ground Level View (Provided by the Applicant)

Proposed Project Area Wetland Map

For Reference Only - Photos of Similar Existing Radar Towers at Other Locations for Visual Effect (Provided by the Applicant)

United States Department of Agriculture

NRCS

Natural Resources Conservation Service
3737 Government Street
Alexandria, LA 71302

(318) 473-7751
Fax: (318) 473-7626

June 27, 2011

Laurel Rohrer
URS Corporation, Contractor
FEMA Louisiana Recovery Office
Environmental Department 4th Floor, Room 4049
1 Seine Court
New Orleans, Louisiana 70114

RE: Doppler Weather System ULM Agricultural & Auto Science Shop Project-1603-0389

Dear Laurel Rohrer:

I have reviewed the above referenced project for potential requirements of the Farmland Protection Policy Act (FPPA) and potential impact to Natural Resource Conservation Service projects in the immediate vicinity.

Projects are subject to FPPA requirements if they may irreversibly convert farmland (directly or indirectly) to nonagricultural use and are completed by a federal agency or with assistance from a federal agency. For the purpose of FPPA, farmland includes prime farmland, unique farmland, and land of statewide or local importance. Farmland subject to FPPA requirements can be forest land, pastureland, cropland, or other land, but not water or urban built-up land.

The project map submitted with your request indicates that the proposed construction areas will not impact prime farmland and therefore is exempt from the rules and regulations of the Farmland Protection Policy Act (FPPA)—Subtitle I of Title XV, Section 1539-1549. Furthermore, we do not predict impacts to NRCS work in the vicinity.

For specific information about the soils found in the project area, please visit our Web Soil Survey at the following location:

http://websoilsurvey.nrcs.usda.gov/

Please direct all future correspondence to me at the address shown above.

Kevin D. Norton
State Conservationist

ACTING FOR

From: Beth Altazan-Dixon
To: laurel.rohrer@associates.dhs.gov
Subject: DEQ SOV 110624/1715 Doppler Weather Radar System and Tower Installation
Date: Friday, July 01, 2011 9:08:03 AM
Attachments: image001.png

July 1, 2011

Laurel Rohrer
FEMA-URS Corporation, Contractor
1 Seine Court, 4th Floor
New Orleans, LA 70114
laurel.rohrer@associates.dhs.gov

RE: 110624/1715 Doppler Weather Radar System and Tower Installation
FEMA Funding
Ouachita Parish

Dear Ms. Rohrer:

The Department of Environmental Quality (LDEQ), Business and Community Outreach Division has received your request for comments on the above referenced project.

After reviewing your request, the department has no objections based on the information provided in your submittal. However, for your information, the following general comments have been included. Please be advised that if you should encounter a problem during the implementation of this project, you should immediately notify LDEQ's Single-Point-of-contact (SPOC) at (225) 219-3640.

- Please take any necessary steps to obtain and/or update all necessary approvals and environmental permits regarding this proposed project.
- If your project results in a discharge to waters of the state, submittal of a Louisiana Pollutant Discharge Elimination System (LPDES) application may be necessary.
- If the project results in a discharge of wastewater to an existing wastewater treatment system, that wastewater treatment system may need to modify its LPDES permit before accepting the additional wastewater.
- All precautions should be observed to control nonpoint source pollution from construction activities. LDEQ has stormwater general permits for construction areas equal to or greater than one acre. It is recommended that you contact the LDEQ Water Permits Division at (225) 219-3181 to determine if your proposed project requires a permit.
- If your project will include a sanitary wastewater treatment facility, a Sewage Sludge and Biosolids Use or Disposal Permit application or Notice of Intent must be submitted no later than June 1, 2011. Additional information may be obtained on the LDEQ website at http://www.deq.louisiana.gov/portal/tabid/2296/Default.aspx or by contacting the LDEQ Water Permits Division at (225) 219- 3181.
- If any of the proposed work is located in wetlands or other areas subject to the jurisdiction of the U.S. Army Corps of Engineers, you should contact the Corps directly regarding permitting issues. If a Corps permit is required, part of the application process may involve a water quality certification from LDEQ.
- All precautions should be observed to protect the groundwater of the region.
- Please be advised that water softeners generate wastewaters that may require special limitations depending on local water quality considerations. Therefore if your water system improvements include water softeners, you are advised to contact the LDEQ Water Permits to determine if special water quality-based limitations will be necessary.
- Any renovation or remodeling must comply with LAC 33:III.Chapter 28, Lead-Based Paint Activities; LAC 33:III.Chapter 27, Asbestos-Containing Materials in Schools and State Buildings (includes all training and accreditation); and LAC 33:III.5151, Emission Standard for Asbestos for any renovations

or demolitions.

- If any solid or hazardous wastes, or soils and/or groundwater contaminated with hazardous constituents are encountered during the project, notification to LDEQ's Single-Point-of-Contact (SPOC) at (225) 219-3640 is required. Additionally, precautions should be taken to protect workers from these hazardous constituents.

Currently, Ouachita Parish is classified as attainment with the National Ambient Air Quality Standards and has no general conformity determination obligations.

Please send all future requests to my attention. If you have any questions, please feel free to contact me at (225) 219-3958 or by email at beth.dixon@la.gov.

Sincerely,

Beth Altazan-Dixon
Performance Management
LDEQ/Business and Community Outreach Division
Office of the Secretary
P.O. Box 4301 (602 N. 5th Street)
Baton Rouge, LA 70821-4301
Phone: 225-219-3958
Fx: 225-325-8148
Email: ***beth.dixon@la.gov***

From: Lofton, David MVK
To: Rohrer, Laurel
Subject: Solicitation of Views - Construction of Doppler Radar Tower, Monroe, Ouachita Parish, LA (UNCLASSIFIED)
Date: Tuesday, July 12, 2011 10:31:14 AM

Ms. Rohrer:

Reference your email below furnishing a Solicitation of Views for construction of a Doppler Radar Tower

Based upon the information provided, it appears that a Department of the Army permit, pursuant to Section 10 of the Rivers and Harbors Act of 1899 and Section 404 of the Clean Water Act, will not be required for the proposed installation/construction a new Doppler weather radar system and support tower near the University of Louisiana at Monroe Agriculture & Auto Science Shop, Ouachita Parish, Louisiana. In the event that project plans are changed, or if you anticipate any additional construction, please contact this office for a reevaluation of permit requirements and refer to identification no. MVK-2011-646 when submitting the information.

Thank you,

David Lofton
Chief, Permit Section
Regulatory Branch
Vicksburg District
(601) 631-5147

-----Original Message-----
From: Rohrer, Laurel (CTR) [mailto:Laurel.Rohrer@associates.dhs.gov]
Sent: Thursday, June 23, 2011 9:15 AM
To: Regulatory MVK; kevin.norton@la.usda.gov; mick.tamara@epamail.epa.gov; beth.dixon@LA.gov; Jamie.Phillippe@LA.gov; karl.morgan@la.gov
Subject: Solicitation of Views - Construction of Doppler Radar Tower, Monroe, Ouachita Parish, LA

U.S. Department of Homeland Security

Federal Emergency Management Agency

FEMA-DR 1603/1607 LA

1 Seine Ct, 4th Floor, Room 4049

New Orleans, LA 70114

cid:image001.gif@01C97598.9778E090

June 23, 2011

MEMORANDUM TO: See Distribution

SUBJECT: Scoping Notification/Solicitation of Views

To Whom It May Concern:

The Department of Homeland Security's Federal Emergency Management Agency (FEMA) is mandated by the U.S. Congress to administer Federal disaster assistance pursuant to the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act), PL 93-288, as amended. The Stafford Act authorizes FEMA's Hazard Mitigation Grant Program to provide funds to states and local governments to implement long-term hazard mitigation measures after a major disaster declaration.

The attached scope of work and photographs correspond to a proposed project for which FEMA funding has been requested.

On August 29, 2005, storm surge caused by Hurricane Katrina inundated large portions of Louisiana causing extensive flood and wind damage to structures in Ouachita Parish. The proposed installation of the Doppler weather radar system and tower will improve the Louisiana Governor's Office of Homeland Security and Emergency Preparedness (GOHSEP's) ability to alert the residents of the rural area located within and surrounding Monroe, Louisiana area of impending hazardous weather conditions. The location of the proposed radar tower is approximately 30-40 feet south of the corner of the existing ULM Agriculture & Auto Science Shop, which is located at 807 U.S. Highway 80 East, Monroe, Louisiana (32.529356, -92.011758).

To ensure compliance with the National Environmental Policy Act (NEPA), Executive Orders (EOs), and other applicable Federal regulations, we will be preparing a Record of Environmental Consideration (REC) or an Environmental Assessment (EA). To assist us in preparation of the REC or EA, we request that your office review the attached document for a determination as to the requirements of any formal consultations, regulatory permits, determinations, or authorizations.

Please respond within 30 calendar days of the date of this scoping notification. If our office receives no comments at the close of this period, we will assume that your agency does not object to the project as proposed.

Comments may be faxed to (504) 762-2205, emailed to Laurel.Rohrer@associates.dhs.gov <mailto:Laurel.Rohrer@associates.dhs.gov> or mailed to the attention of Laurel Rohrer, Environmental Department, at the address above.

For questions regarding this matter, please contact Melanie Sibley, Environmental Specialist at (504) 762-2205.

Tiffany Winnfield,

Designated Environmental Liaison Officer

Distribution: LDEQ, USEPA, USACE, LWFD, NRCS

Laurel Rohrer, CFM, CHMM, REM (CTR)

URS Corporation, Contractor

NEPA Environmental Specialist - Hazard Mitigation Grant Program

Federal Emergency Management Agency

4th Floor, Room 4049, FEMA Louisiana Recovery Office

1 Seine Court, 4th Floor

New Orleans, LA 70114

Office: (504) 762-2205

Cell: (540) 842-3300

Fax: (504) 762-2353

Email: laurel.rohrer@associates.dhs.gov

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
1445 ROSS AVENUE, SUITE 1200
DALLAS, TX 75202-2733

JUN 23 2011

Laurel Rohrer
Environmental Department
Federal Emergency Management Agency
1 Seine Ct, 4th Floor, Room 40409
New Orleans, Louisiana 70114

Re: Construction of Doppler Radar Tower
Monroe, Ouachita Parish, Louisiana

Dear Ms. Rohrer:

The U.S. Environmental Protection Agency (EPA) has received and reviewed a solicitation of views for the construction of a Doppler Radar Tower in Ouachita Parish, Louisiana. The EPA does not have any concerns at this time and would like to recommend obtaining verification from the U.S. Army Corps of Engineers that no waters of the U. S. will be impacted by construction of the tower. Thank you for the opportunity to review and provide comments. If you have any questions or would like to discuss the issue further, please do not hesitate to contact me at Gutierrez.raul@epa.gov or 214-665-6697.

Sincerely yours,

Raul Gutierrez
Wetlands Section

BOBBY JINDAL
GOVERNOR

SCOTT A. ANGELLE
SECRETARY

State of Louisiana
DEPARTMENT OF NATURAL RESOURCES
OFFICE OF COASTAL MANAGEMENT

06/29/2011

U.S. DEPARTMENT OF HOMELAND SECURITY - FEMA
1 SEINE CT., 4TH FLOOR
NEW ORLEANS, LA 70114

RE: P20110859, Solicitation of Views
U.S. DEPARTMENT OF HOMELAND SECURITY - FEMA
Description: Proposal to install/construct a new doppler weather radar system and 60 -70 feet free standing support tower as part of a statewide alert and warning system upgrade project to improve the Louisiana Governor's Office of Homeland Security and Emergency Preparedness (GOHSEP's) ability to alert the residents within and surrounding the local area. The components consist of a security fence around the tower, new Enterprise Electronics Corporation DWSR-8501S Doppler Weather Radar System, a local maintenance work station, radar site control and data processing server, simultaneous dual polarization package, and a support tower to support the radar pedestal, dish and 41-foot radome. No trees will be removed. The dimensions of ground disturbance will be approximately 3 feet deep, 20-25 feet long, and 20-25 feet wide for a solid tower foundation. Also four separate pylons (typically 5 feet by 5 feet) installed to a depth of 8 feet or more may be required.
Location: Lat. 32º 31' 45.68"N and Long. 92º 00' 42.33"W; approximately 30-40 feet south of the corner of the existing ULM Agriculture & Auto Science Shop, near 807 U.S. Hwy. 80 East in Monroe.
Ouachita Parish, LA

Dear Laurel Rohrer:

We have received your Solicitation of Views for the above referenced project, which has been found to be outside the Louisiana Coastal Zone. Therefore, pursuant to the provisions of LA R.S. 49:214.25.E, a Coastal Use Permit will not be required.

This determination is valid for two (2) years from the date of this letter. If the proposed activity is not initiated within this 2-year period, this determination will expire and the applicant will be required to submit a new application.

This determination has been made on the basis of information provided by your application. If it is later established that you furnished erroneous data, you may be directed to alter or modify your plans, to remove structures you have installed, and/or to restore the work area to pre-project conditions at

your own expense. If it is established that you knowingly furnished erroneous data, you could also be subject to legal action.

The drawings submitted with your referenced application are attached hereto and made a part of the record. If you have any questions regarding this authorization, please contact our office at (225) 342-7591 or (800) 267-4019.

Sincerely,

Karl L. Morgan
Acting Administrator

Karl L. Morgan/oj

Attachments

Final Plats:

1) P20110859 Final Plats 06/24/2011

cc: Pete Serio, COE w/plats
Dave Butler, LDWF w/plats
Peggy Rooney, OCM w/plats

PREPARED BY OJ

DATE 06-29-11

CMD - PERMIT CODING FORM

DATE PRINTED: 06/29/2011

P20110859 — CUPNO

U.S. DEPARTMENT OF HOMELAND SECURITY - FEMA — APPLICANT NAME

JAMES, ONTARIO — REVIEWER

OUACHITA — PARISH (ES)

06/24/2011 — DATERECD

06/29/2011 — ACKNOWL

TOWNSHIP — RANGE — SECTION — QUAD #: 035-D

32° - 31 - 46. — LATITUDE

92° - 0 - 42. — LONGITUDE

(•) STATE CONCERN ( ) LOCAL

( ) IN (•) OUT — CZ

( ) IN (•) OUT — CP

PGP [ ] 1 [ ] 2 [ ] NOT PGP

WELLNAME NA

WELL# NA

14 — APPLICANT TYPE

11 — STATUS

REVISION # ____ / REVISION ISSUE DATE ____ / ____ / ____ — EXEMPT: 7

( ) MAJOR (•) MINOR

CUBIC YARDS: 70

DREDGE: 4

RIG: 0

PIPELINE: 0

MISC: 99

H2O BLOCK: 0

DEVELOP: -0

FIELD AREA NA

( ) YES (•) NO — TRANSFER

ENTER THE NEW NAME IN APPLICANT FIELD

( ) YES (•) NO — FIELD INVESTIGATION REQUESTED

( ) YES (•) NO — REVISED

( ) YES (•) NO — AMENDED

( ) YES (•) NO — MODIFIED

( ) YES (•) NO — EXTENDED

( ) YES (•) NO — FOLLOW-UP REQUESTED

FINAL DETERMINATION (S) (SEPARATE BY COMMAS): SOV-OCZ

ON-HOLD DATE ____ / ____ / ____

OFF-HOLD DATE ____ / ____ / ____

PUBLIC NOTICE DATE ____ / ____ / ____

PDRAFT DATE ____ / ____ / ____

(•) 0 ( ) 1 ( ) 2 ( ) 3 ( ) 4 ( ) 5 ( ) 6 ( ) 7 ( ) 8 ( ) 9 — PUBLIC NOTICE TYPE

ISSUE DATE ____ / ____ / ____

COMMENCE DATE ____ / ____ / ____

WITHDRAWN DATE ____ / ____ / ____

PUBLIC HEARING DATE ____ / ____ / ____

APPEAL DATE ____ / ____ / ____

X-REFERENCE

* Doppler Weather Tower

COMMENTS

SOV-OCZ

IMPACTED HABITAT FORM

PREPARED BY OJ

DATE 06-29-11

P20110859 (CUPNO/CONNO)

U.S. DEPARTMENT OF HOMELAND SECURITY - FEMA (APPLICANT NAME)

DATE PRINTED 06/29/2011

HABITAT CODE	DRAINAGE BASIN	DIST'D ACRES PROP.	DIST'D ACRES SUBM.
UU	NA	0.0143	0.0143

DIST'D ACRES ISSUED	AAHU	YEARS	HSI	CHU LOST
0.0143				

MIT REQ'D (Y,N OR W)	ACRES REQUIRING MIT.	ADD. PERMIT REQ'D	MIT PROJ CUP/CON NO
N	0.0	N	NA

COMMENTS

HABITAT CODE	DRAINAGE BASIN	DIST'D ACRES PROP.	DIST'D ACRES SUBM.

DIST'D ACRES ISSUED	AAHU	YEARS	HSI	CHU LOST

MIT REQ'D (Y,N OR W)	ACRES REQUIRING MIT.	ADD. PERMIT REQ'D	MIT PROJ CUP/CON NO

COMMENTS

From: Rohrer, Laurel (CTR)
Sent: Monday, June 27, 2011 1:57 PM
To: 'Bechdol.michael@epa.gov'
Subject: Solicitation of Views - Ouachita Parish, LA Doppler Radar Tower Construction Project
Attachments: 1603-0389 ULM Doppler Radar Tower Scoping letter SOW.doc; Sparta Aquifer Memo_AGC-1-05.pdf

Mr. Bechdol,

FEMA is considering providing Hazard Mitigation Grant Program funding for the attached project in relation to Hurricanes Katrina and Rita (FEMA-1603/1607-DR-LA). FEMA has determined that the project overlies the Sparta Aquifer. While not a Sole Source Aquifer, the Sparta Aquifer is an "Area of Groundwater Concern". Please review the attached project description to determine whether the proposed project would have any adverse effect on the quality of the ground water underlying the site. The applicant is the Louisiana Governor's Office of Homeland Security and Emergency Preparedness. The proposed scope of work is to construct/install a new Doppler radar tower near the University of Louisiana-Monroe Agriculture & Auto Science Shop in Monroe, Louisiana. Please call me at (540) 842-3300 if you have any questions with this project. Thank you in advance for your time and attention to this matter.

Laurel Rohrer, CFM, CHMM, REM (CTR)
URS Corporation, Contractor
NEPA Environmental Specialist - Hazard Mitigation Grant Program
Federal Emergency Management Agency
4th Floor, Room 4049, FEMA Louisiana Recovery Office
1 Seine Court, 4th Floor
New Orleans, LA 70114
Office: (504) 762-2205
Cell: (540) 842-3300
Fax: (504) 762-2353
Email: laurel.rohrer@associates.dhs.gov

The proposed project is to install/construct a new Doppler weather radar system and support tower near the University of Louisiana at Monroe (ULM) Agriculture & Auto Science Shop in Monroe, Louisiana. Please see the scope of work below.

Damage Description:

On August 29, 2005, storm surge caused by Hurricane Katrina inundated large portions of Louisiana causing extensive flood and wind damage to structures in Ouachita Parish. The proposed installation of the Doppler weather radar system and tower will improve the Louisiana Governor's Office of Homeland Security and Emergency Preparedness (GOHSEP's) ability to alert the residents of the rural area located within and surrounding Monroe, Louisiana area of impending hazardous weather conditions.

Scope of Work:

The proposed action at this location is a part of a statewide alert and warning system upgrade project. The scope of work proposed for the other locations involves adding equipment to existing towers or on rooftops, which do not involve ground disturbing activities.

The scope of work for the proposed action at the ULM location is to construct/install a new Enterprise Electronics Corporation DWSR-8501S Doppler Weather Radar System, a local maintenance work station, radar site control and data processing server, simultaneous dual polarization package, and a support tower to support the radar pedestal and dish and a 41-foot covering radome, all of which will be located approximately 30-40 feet south of the corner of the existing ULM Agriculture & Auto Science Shop, which is located at 807 U.S. Highway 80 East, Monroe, Louisiana (32.529356, -92.011758). The tower will be free standing and will not require guy wires. Ground disturbance will be required for this project. The dimensions of ground disturbance for the proposed project, as provided by the applicant, will be approximately 3 feet deep, 20-25 feet long, and 20-25 feet wide for a solid tower foundation. Alternatively, four separate pylons (typically 5 feet by 5 feet), installed to a depth of 8 feet or more, may be required, based on findings of a licensed engineer specializing in soil analysis for these types of installations. The proposed project area is currently undeveloped land adjacent to an existing steel structure. The project area is covered with maintained grass. According to the applicant, no trees will be removed as part of the proposed project. A security fence will be installed around the tower. According to the applicant, the height of the tower will be between 60 to 70 feet, which is less than a farm silo or municipal water tower. Photos of existing radar towers at other locations are attached for determining the visual effect of the proposed work. The proposed tower will use existing utilities already at the site. According to the applicant, Enterprise Electronics Corporation has stated that there will be typical construction noise during equipment installation and that no emissions will occur to the atmosphere.

The attached figures depict the proposed project location, the specific tower site location in relation to the adjacent structure, a proposed project area wetland map, and a photo of the proposed tower location in its current state.

Proposed Project Location Map – Monroe, Louisiana

Proposed Project Vicinity

Anticipated Location of the Proposed Doppler Radar Tower (Provided by the Applicant)

Photo of Proposed Doppler Radar Tower Location – Ground Level View (Provided by the Applicant)

Proposed Project Area Wetland Map

For Reference Only - Photos of Similar Existing Radar Towers at Other Locations for Visual Effect (Provided by the Applicant)

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
1445 ROSS AVENUE, SUITE 1200
DALLAS TX 75202-2733

June 28, 2011

Ms. Laurel Rohrer
NEPA Environmental Specialist
Federal Emergency Management Agency
4th Floor, Room 4049,
FEMA Louisiana Recovery Office
1 Seine Court, 4th Floor
New Orleans, LA 70144

Dear Ms. Rohrer:

We have received your June 26, 2011, email requesting our evaluation of the potential environmental impacts which might result from the following project:

Doppler Radar Tower
Construction
University of Louisiana-Monroe
Agriculture &Auto Science Shop
Ouachita Parish, Monroe, Louisiana

In administering the sole source aquifer (SSA) program under Section 1424 of the Safe Drinking Water Act our Office performs evaluations of projects with federal financial assistance which are located over a designated sole source aquifer.

Based on the information provided, we have concluded that the project does not lie within the boundaries of a designated sole source aquifer and is thus not eligible for review under the SSA program. The proposed project will be located in the Sparta Aquifer an "Area of Groundwater Concern." We have determined that the project should not have an adverse effect on the quality of the ground water underlying the project site.

If you did not include the Parish/County; a legal description; project location and the latitude and longitude if available, please do so in future Sole Source Aquifer correspondence.

If you have any questions on this letter or the sole source aquifer program please contact me at (214) 665-7133.

Sincerely yours,

Michael Bechdol, Coordinator
Sole Source Aquifer Program
Ground Water/UIC Section

cc: Jesse Means, LDEQ

State of Louisiana

KATHLEEN BABINEAUX BLANCO
GOVERNOR

SCOTT A. ANGELLE
SECRETARY

JAMES H. WELSH
COMMISSIONER OF CONSERVATION

DEPARTMENT OF NATURAL RESOURCES
OFFICE OF CONSERVATION

MEMORANDUM

TO: Interested Parties

FROM: James H. "Jim" Welsh, Commissioner of Conservation

DATE: August 15, 2005

SUBJECT: Order No. AGC-1-05
(Sparta Aquifer, Areas of Groundwater Concern)

I have reviewed the Record of the Application filed by the Sparta Ground Water Conservation District within the context of the recently enacted Act 225 of 2005, which became effective June 29, 2005. Information contained in the Record indicates that the sustainability of the Sparta Aquifer is not being maintained and, if not addressed, will lead to serious adverse impacts to the aquifer. Based on this information, I have declared the three below identified areas overlying the Sparta Aquifer to be areas of groundwater concern, pursuant to definition and terminology provided in applicable Louisiana statute. Order No. AGC-1-05 supersedes the previous Order No. CGWA-1-05 dated April 28, 2005 in its entirety.

In the attached Order No. AGC-1-05, I have ordered that three important remedial actions take place immediately:

1. an aggressive water conservation education program shall be conducted,
2. owners of non-domestic Sparta water wells shall submit a monthly water usage report to the Office of Conservation showing static water level measurements when available, and
3. alternative sources of potable water should be vigorously pursued in order to reduce the amount of Sparta Aquifer groundwater usage.

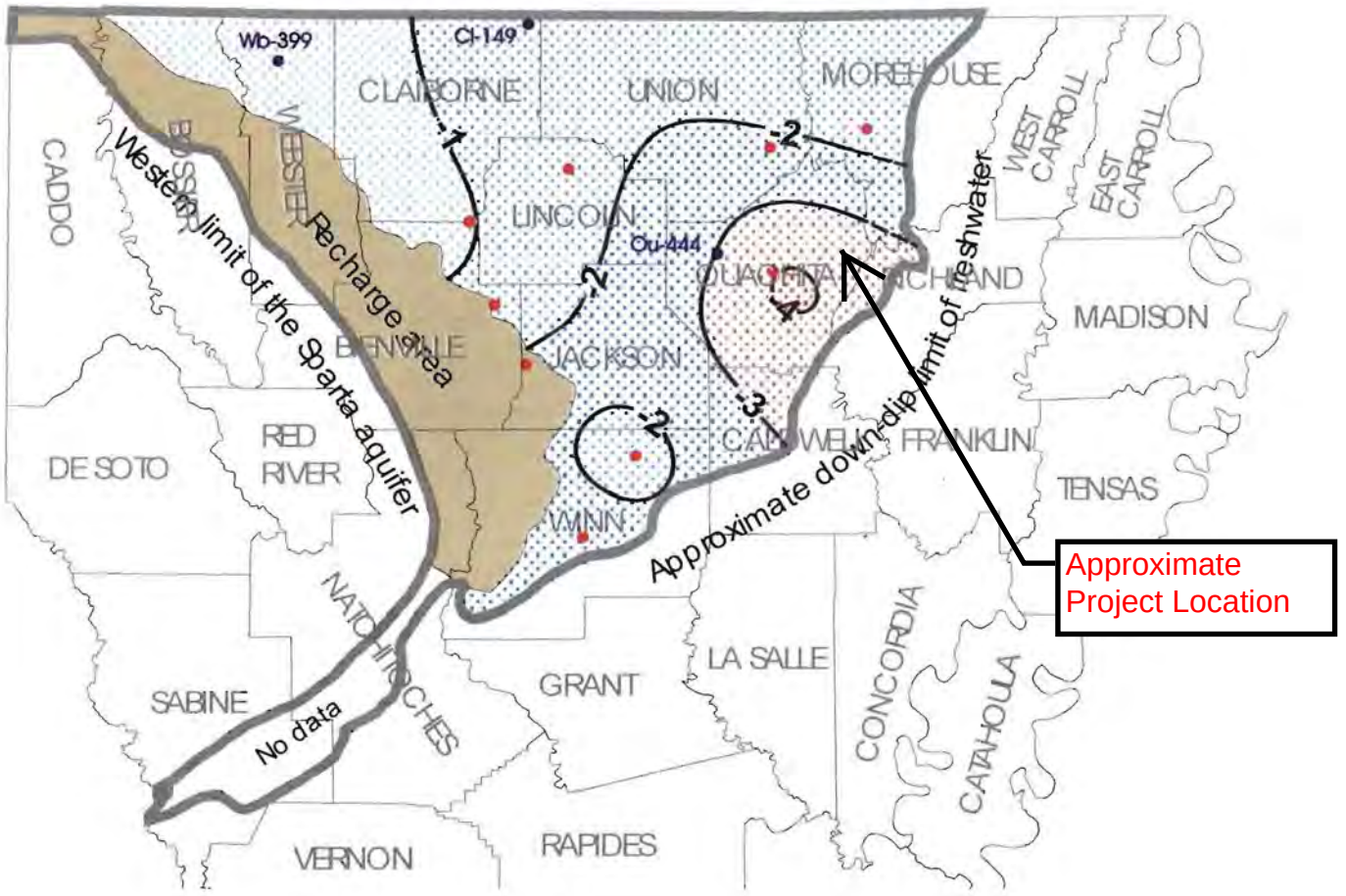
Additionally, this Order recommends that further study be conducted by appropriate parties to investigate reported salt water encroachment within the Sparta Aquifer system. The Order issued today does not mandate any groundwater withdrawal restrictions on new or existing Sparta wells in the three areas of groundwater concern. Any necessary future water usage restrictions will be made on a case by case basis, with groundwater for human consumption and public safety as first priority.

The Order names and identifies the following three areas of ground water concern:

- Monroe-West Monroe Area of Groundwater Concern (Ouachita Parish)
- Ruston Area of Groundwater Concern (Lincoln Parish)
- Jonesboro-Hodge Area of Groundwater Concern(Jackson and Bienville Parishes)

Act 225 of 2005, along with prior Louisiana groundwater law, authorizes the Commissioner of Conservation to manage, protect, and conserve the State's groundwater resources. For additional information, please do no hesitate to contact Mr. Anthony J. Duplechin, Jr., CPG at (225) 342-8244.

Water-level decline in the Sparta aquifer in northern Louisiana during the period 1990 to 2000, based on data from USGS/DOTD water-level networks.



From: Rohrer, Laurel (CTR)
Sent: Thursday, June 23, 2011 9:30 AM
To: 'seth_bordelon@fws.gov'
Subject: Solitation of Views - Construction of Doppler Radar Tower, Monroe, Ouachita Parish, LA
Attachments: 1603-0389 ULM Doppler Radar Tower USFWS Consultation letter.doc

Mr. Bordelon,

The State of Louisiana is requesting HMGP funding to construct/install a Doppler weather radar system and tower to improve the Louisiana Governor's Office of Homeland Security and Emergency Preparedness (GOHSEP's) ability to alert the residents of the rural area located within and surrounding Monroe, Louisiana area of impending hazardous weather conditions. The location of the proposed radar tower is approximately 30-40 feet south of the corner of the existing ULM Agriculture & Auto Science Shop, which is located at 807 U.S. Highway 80 East, Monroe, Louisiana (32.529356, -92.011758). The attached scope of work and aerial maps correspond to the proposed project.

Please respond within 30 calendar days of the date of this scoping notification. If our office receives no comments at the close of this period, we will assume that your agency does not object to the project as proposed.

Comments may be faxed to (504) 762-2353, emailed to Laurel.Rohrer@associates.dhs.gov or mailed to the attention of Laurel Rohrer, Environmental Department, at the address above.

For questions regarding this matter, please contact Laurel Rohrer, Environmental Specialist at (504) 762-2205.

Laurel Rohrer, CFM, CHMM, REM (CTR)
URS Corporation, Contractor
NEPA Environmental Specialist - Hazard Mitigation Grant Program
Federal Emergency Management Agency
4th Floor, Room 4049, FEMA Louisiana Recovery Office
1 Seine Court, 4th Floor
New Orleans, LA 70114
Office: (504) 762-2205
Cell: (540) 842-3300
Fax: (504) 762-2353
Email: laurel.rohrer@associates.dhs.gov

U.S. Department of Homeland Security
DR-1603-LA
1 Seine Court, 4th Floor
New Orleans, LA 70114
504-762-2000
504-762-2353 (Fax)

June 23, 2011

Mr. Seth Bordelon
Fish and Wildlife Biologist
U.S. Fish and Wildlife Service
646 Cajundome Blvd., Ste. 400
Lafayette, LA 70506

Subject: State of Louisiana
Monroe, Ouachita, Louisiana
Construction/Installation of Doppler Radar Tower and Equipment at the University of Louisiana – Monroe (ULM)
NEMIS # 1603-0389 FEMA-1603-DR-LA

Dear Mr. Bordelon:

FEMA is considering providing Hazard Mitigation Grant Program funding for the attached project in relation to Hurricanes Katrina and Rita (FEMA-1603/1607-DR-LA). Please review the following project located at the ULM Agriculture & Auto Science Shop, Monroe, Ouachita Parish, LA, for effects to all federal trust resources. We would appreciate your comments on this project within thirty days. If we do not receive comments from you within this time period, we will assume that you have no concerns or issues with the proposed project. If appropriate, FEMA will condition funding approval or funding continuance based on the applicant's obtaining applicable permits from your office.

Please contact Laurel Rohrer, Environmental Specialist by phone at (540) 842-3300, by mail at 1 Seine Court, 4th Floor, New Orleans, LA 70114, or by email at laurel.rohrer@associates.dhs.gov with any questions.

Sincerely,

Tiffany Winfield
Environmental Supervisor
FEMA 1603/1607-DR-LA

Attachments: Project Description
Project Location Maps and Photo
Project Wetland Map
Photos of Existing Radar Towers at Other Locations (for Visual Effects)

Mr. Bordelon,

The proposed project is to install/construct a new Doppler weather radar system and support tower near the University of Louisiana at Monroe (ULM) Agriculture & Auto Science Shop in Monroe, Louisiana. Please see the scope of work below.

Damage Description:

On August 29, 2005, storm surge caused by Hurricane Katrina inundated large portions of Louisiana causing extensive flood and wind damage to structures in Ouachita Parish. The proposed installation of the Doppler weather radar system and tower will improve the Louisiana Governor's Office of Homeland Security and Emergency Preparedness (GOHSEP's) ability to alert the residents of the rural area located within and surrounding Monroe, Louisiana area of impending hazardous weather conditions.

Scope of Work:

The proposed action at this location is a part of a statewide alert and warning system upgrade project. The scope of work proposed for the other locations involves adding equipment to existing towers or on rooftops, which do not involve ground disturbing activities.

The scope of work for the proposed action at the ULM location is to construct/install a new Enterprise Electronics Corporation DWSR-8501S Doppler Weather Radar System, a local maintenance work station, radar site control and data processing server, simultaneous dual polarization package, and a support tower to support the radar pedestal and dish and a 41-foot covering radome, all of which will be located approximately 30-40 feet south of the corner of the existing ULM Agriculture & Auto Science Shop, which is located at 807 U.S. Highway 80 East, Monroe, Louisiana (32.529356, -92.011758). The tower will be free standing and will not require guy wires. The proposed tower location lies within the 500-year (0.2 percent chance) flood zone, according to preliminary DFIRM panel 22073C 0170F for Ouachita Parish, dated August 7, 2009. Ground disturbance will be required for this project. The dimensions of ground disturbance for the proposed project, as provided by the applicant, will be approximately 3 feet deep, 20-25 feet long, and 20-25 feet wide for a solid tower foundation. Alternatively, four separate pylons (typically 5 feet by 5 feet), installed to a depth of 8 feet or more, may be required, based on findings of a licensed engineer specializing in soil analysis for these types of installations. The proposed project area is currently undeveloped land adjacent to an existing steel structure. The project area is covered with maintained grass. According to the applicant, no trees will be removed as part of the proposed project. A security fence will be installed around the tower. According to the applicant, the height of the tower will be between 60 to 70 feet, which is less than a farm silo or municipal water tower. Photos of existing radar towers at other locations are attached for determining the visual effect of the proposed work. The proposed tower will use existing utilities already at the site. According to the applicant, Enterprise Electronics Corporation has stated that there will be typical construction noise during equipment installation and that no emissions will occur to the atmosphere.

The attached figures depict the proposed project location, the specific tower site location in relation to the adjacent structure, a proposed project area wetland map, and a photo of the proposed tower location in its current state.

Proposed Project Location Map – Monroe, Louisiana

Proposed Project Vicinity

Anticipated Location of the Proposed Doppler Radar Tower (Provided by the Applicant)

Photo of Proposed Doppler Radar Tower Location – Ground Level View (Provided by the Applicant)

Proposed Project Area Wetland Map

For Reference Only - Photos of Similar Existing Radar Towers at Other Locations for Visual Effect (Provided by the Applicant)

FEMA

U.S. Department of Homeland Security
DR-1603-LA
1 Seine Court, 4th Floor
New Orleans, LA 70114
504-762-2000
504-762-2353 (Fax)

June 23, 2011

Mr. Seth Bordelon
Fish and Wildlife Biologist
U.S. Fish and Wildlife Service
646 Cajundome Blvd., Ste. 400
Lafayette, LA 70506

Subject: State of Louisiana
Monroe, Ouachita, Louisiana
Construction/Installation of Doppler Radar Tower and Equipment at the University of Louisiana – Monroe (ULM)
NEMIS # 1603-0389 FEMA-1603-DR-LA

Dear Mr. Bordelon:

FEMA is considering providing Hazard Mitigation Grant Program funding for the attached project in relation to Hurricanes Katrina and Rita (FEMA-1603/1607-DR-LA). Please review the following project located at the ULM Agriculture & Auto Science Shop, Monroe, Ouachita Parish, LA, for effects to all federal trust resources. We would appreciate your comments on this project within thirty days. If we do not receive comments from you within this time period, we will assume that you have no concerns or issues with the proposed project. If appropriate, FEMA will condition funding approval or funding continuance based on the applicant's obtaining applicable permits from your office.

Please contact Laurel Rohrer, Environmental Specialist by phone at (540) 842-3300, by mail at 1 Seine Court, 4th Floor, New Orleans, LA 70114, or by email at laurel.rohrer@associates.dhs.gov with any questions.

Sincerely,

Tiffany Winfield
Environmental Supervisor
FEMA 1603/1607-DR-LA

Attachments: Project Description
Project Location Maps and Photo
Project Wetland Map
Photos of Existing Radar Towers at Other Locations (for Visual Effects)

This project has been reviewed for effects to Federal trust resources under our jurisdiction and currently protected by the Endangered Species Act of 1973 (Act). The project, as proposed,
(✓) Will have no effect on those resources
( ) Is not likely to adversely affect those resources.
This finding fulfills the requirements under Section 7(a)(2) of the Act.

6/29/11

Acting Supervisor
Louisiana Field Office
U.S. Fish and Wildlife Service

Date

From: Rohrer, Laurel (CTR)
Sent: Friday, August 05, 2011 1:15 PM
To: 'cmichon@wlf.la.gov'
Subject: Solicitation of Views - Construction of Doppler Radar Tower, Monroe, Ouachita Parish, LA
Attachments: 1603-0389 ULM Doppler Radar Tower Scoping letter SOW.doc

U.S. Department of Homeland Security
Federal Emergency Management Agency
FEMA-DR 1603/1607 LA
1 Seine Ct, 4th Floor, Room 4049
New Orleans, LA 70114

cid:image001.gif@01C97598.9778E090

August 5, 2011

MEMORANDUM TO: See Distribution

SUBJECT: Scoping Notification/Solicitation of Views

To Whom It May Concern:

The Department of Homeland Security's Federal Emergency Management Agency (FEMA) is mandated by the U.S. Congress to administer Federal disaster assistance pursuant to the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act), PL 93-288, as amended. The Stafford Act authorizes FEMA's Hazard Mitigation Grant Program to provide funds to states and local governments to implement long-term hazard mitigation measures after a major disaster declaration.

The attached scope of work and photographs correspond to a proposed project for which FEMA funding has been requested.

On August 29, 2005, storm surge caused by Hurricane Katrina inundated large portions of Louisiana causing extensive flood and wind damage to structures in Ouachita Parish. The proposed installation of the Doppler weather radar system and tower will improve the Louisiana Governor's Office of Homeland Security and Emergency Preparedness (GOHSEP's) ability to alert the residents of the rural area located within and surrounding Monroe, Louisiana area of impending hazardous weather conditions. The location of the proposed radar tower is approximately 30-40 feet south of the corner of the existing ULM Agriculture & Auto Science Shop, which is located at 807 U.S. Highway 80 East, Monroe, Louisiana (32.529356, -92.011758).

To ensure compliance with the National Environmental Policy Act (NEPA), Executive Orders (EOs), and other applicable Federal regulations, we will be preparing a Record of Environmental Consideration (REC) or an Environmental Assessment (EA). To assist us in preparation of the REC or EA, we request that your office review the attached

document for a determination as to the requirements of any formal consultations, regulatory permits, determinations, or authorizations.

Please respond within 30 calendar days of the date of this scoping notification. If our office receives no comments at the close of this period, we will assume that your agency does not object to the project as proposed.

Comments may be faxed to (504) 762-2205, emailed to Laurel.Rohrer@associates.dhs.gov or mailed to the attention of Laurel Rohrer, Environmental Department, at the address above.

For questions regarding this matter, please contact Melanie Sibley, Environmental Specialist at (504) 762-2205.

Tiffany Winnfield,
Designated Environmental Liaison Officer

Distribution: LDEQ, USEPA, USACE, LWFD, NRCS

Laurel Rohrer, CFM, CHMM, REM (CTR)
URS Corporation, Contractor
NEPA Environmental Specialist - Hazard Mitigation Grant Program
Federal Emergency Management Agency
4th Floor, Room 4049, FEMA Louisiana Recovery Office
1 Seine Court, 4th Floor
New Orleans, LA 70114
Office: (504) 762-2205
Cell: (540) 842-3300
Fax: (504) 762-2353
Email: laurel.rohrer@associates.dhs.gov

The proposed project is to install/construct a new Doppler weather radar system and support tower near the University of Louisiana at Monroe (ULM) Agriculture & Auto Science Shop in Monroe, Louisiana. Please see the scope of work below.

Damage Description:

On August 29, 2005, storm surge caused by Hurricane Katrina inundated large portions of Louisiana causing extensive flood and wind damage to structures in Ouachita Parish. The proposed installation of the Doppler weather radar system and tower will improve the Louisiana Governor's Office of Homeland Security and Emergency Preparedness (GOHSEP's) ability to alert the residents of the rural area located within and surrounding Monroe, Louisiana area of impending hazardous weather conditions.

Scope of Work:

The proposed action at this location is a part of a statewide alert and warning system upgrade project. The scope of work proposed for the other locations involves adding equipment to existing towers or on rooftops, which do not involve ground disturbing activities.

The scope of work for the proposed action at the ULM location is to construct/install a new Enterprise Electronics Corporation DWSR-8501S Doppler Weather Radar System, a local maintenance work station, radar site control and data processing server, simultaneous dual polarization package, and a support tower to support the radar pedestal and dish and a 41-foot covering radome, all of which will be located approximately 30-40 feet south of the corner of the existing ULM Agriculture & Auto Science Shop, which is located at 807 U.S. Highway 80 East, Monroe, Louisiana (32.529356, -92.011758). The tower will be free standing and will not require guy wires. Ground disturbance will be required for this project. The dimensions of ground disturbance for the proposed project, as provided by the applicant, will be approximately 3 feet deep, 20-25 feet long, and 20-25 feet wide for a solid tower foundation. Alternatively, four separate pylons (typically 5 feet by 5 feet), installed to a depth of 8 feet or more, may be required, based on findings of a licensed engineer specializing in soil analysis for these types of installations. The proposed project area is currently undeveloped land adjacent to an existing steel structure. The project area is covered with maintained grass. According to the applicant, no trees will be removed as part of the proposed project. A security fence will be installed around the tower. According to the applicant, the height of the tower will be between 60 to 70 feet, which is less than a farm silo or municipal water tower. Photos of existing radar towers at other locations are attached for determining the visual effect of the proposed work. The proposed tower will use existing utilities already at the site. According to the applicant, Enterprise Electronics Corporation has stated that there will be typical construction noise during equipment installation and that no emissions will occur to the atmosphere.

The attached figures depict the proposed project location, the specific tower site location in relation to the adjacent structure, a proposed project area wetland map, and a photo of the proposed tower location in its current state.

Proposed Project Location Map – Monroe, Louisiana

Proposed Project Vicinity

Anticipated Location of the Proposed Doppler Radar Tower (Provided by the Applicant)

Photo of Proposed Doppler Radar Tower Location – Ground Level View (Provided by the Applicant)

Proposed Project Area Wetland Map

For Reference Only - Photos of Similar Existing Radar Towers at Other Locations for Visual Effect (Provided by the Applicant)

BOBBY JINDAL
GOVERNOR

State of Louisiana
DEPARTMENT OF WILDLIFE AND FISHERIES
OFFICE OF WILDLIFE

ROBERT J. BARHAM
SECRETARY
JIMMY L. ANTHONY
ASSISTANT SECRETARY

Date	August 10, 2011
Name	Laurel Rohrer
Company	FEMA
Street Address	1 Seine Court, 4th floor
City, State, Zip	New Orleans, LA 70114
Project	Installation of Doppler Weather Radar System
Project ID	4112011
Invoice Number	11081012

Personnel of the Habitat Section of the Coastal & Non-Game Resources Division have reviewed the preliminary data for the captioned project. After careful review of our database, no impacts to rare, threatened, or endangered species or critical habitats are anticipated for the proposed project. No state or federal parks, wildlife refuges, scenic streams, or wildlife management areas are known at the specified site within Louisiana's boundaries.

The Louisiana Natural Heritage Program (LNHP) has compiled data on rare, endangered, or otherwise significant plant and animal species, plant communities, and other natural features throughout the state of Louisiana. Heritage reports summarize the existing information known at the time of the request regarding the location in question. The quantity and quality of data collected by the LNHP are dependent on the research and observations of many individuals. In most cases, this information is not the result of comprehensive or site-specific field surveys; many natural areas in Louisiana have not been surveyed. This report does not address the occurrence of wetlands at the site in question. Heritage reports should not be considered final statements on the biological elements or areas being considered, nor should they be substituted for on-site surveys required for environmental assessments. LNHP requires that this office be acknowledged in all reports as the source of all data provided here. If at any time Heritage tracked species are encountered within the project area, please contact the LNHP Data Manager at 225-765-2643. If you have any questions, or need additional information, please call 225-765-2357.

Sincerely,

for Carolyn Michon

Amity Bass, Coordinator
Natural Heritage Program

Avocets Credit: Donna A. Dewhurst

About Us
Avian Health and Disease
Bird Management
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United States Department of Interior
Fish and Wildlife Service
Washington, DC 20240

September 14, 2000

To: Regional Directors
From: Director /s/ Jamie Rappaport Clark
Subject: Service Guidance on the Siting, Construction, Operation and Decommissioning of Communications Towers

Construction of communications towers (including radio, television, cellular, and microwave) in the United States has been growing at an exponential rate, increasing at an estimated 6 percent to 8 percent annually. According to the Federal Communication Commission's *2000 Antenna Structure Registry*, the number of lighted towers greater than 199 feet above ground level (AGL) currently number over 45,000 and the total number of towers over 74,000. Non-compliance with the registry program is estimated at 24 percent to 38 percent, bringing the total to 92,000 to 102,000. By 2003, all television stations must be digital, adding potentially 1,000 new towers exceeding 1,000 feet AGL.

The construction of new towers creates a potentially significant impact on migratory birds, especially some 350 species of night-migrating birds. Communications towers are estimated to kill 4-5 million birds per year, which violates the spirit and the intent of the Migratory Bird Treaty Act and the Code of Federal Regulations at Part 50 designed to implement the MBTA. Some of the species affected are also protected under the Endangered Species Act and Bald and Golden Eagle Act.

Service personnel may become involved in the review of proposed tower sitings and/or in the evaluation of tower impacts on migratory birds through National Environmental Policy Act review; specifically, Sections 1501.6, opportunity to be a cooperating agency, and 1503.4, duty to comment on federally-licensed activities for agencies with jurisdiction by law, in this case the MBTA, or because of special expertise. Also, the National Wildlife Refuge System Improvement Act requires that any activity on Refuge lands be determined as compatible with the Refuge system mission and the Refuge purpose(s). In addition, the Service is required by the ESA to assist other Federal agencies in ensuring that any action they authorize, implement, or fund will not jeopardize the continued existence of any Federally endangered or threatened species.

A Communication Tower Working Group composed of government agencies, industry, academic researchers and NGO's has been formed to develop and implement a research protocol to determine the best ways to construct and operate towers to prevent bird strikes. Until the research study is completed, or until research efforts uncover significant new mitigation measures, all Service personnel involved in the review of proposed tower sitings and/or the evaluation of the impacts of towers on migratory birds should use the attached interim guidelines when making recommendations to all companies, license applicants, or licensees proposing new tower sitings. These guidelines were developed by Service personnel from research conducted in several eastern, midwestern, and southern states, and have been refined through Regional review. They are based on the best information available at this time, and are the most prudent and effective measures for avoiding bird strikes at towers. We believe that they will provide significant protection for

migratory birds pending completion of the Working Group's recommendations. As new information becomes available, the guidelines will be updated accordingly.

Implementation of these guidelines by the communications industry is voluntary, and our recommendations must be balanced with Federal Aviation Administration requirements and local community concerns where necessary. Field offices have discretion in the use of these guidelines on a case by case basis, and may also have additional recommendations to add which are specific to their geographic area.

Also attached is a Tower Site Evaluation Form which may prove useful in evaluating proposed towers and in streamlining the evaluation process. Copies may be provided to consultants or tower companies who regularly submit requests for consultation, as well as to those who submit individual requests that do not contain sufficient information to allow adequate evaluation. This form is for discretionary use, and may be modified as necessary.

The Migratory Bird Treaty Act (16 U.S.C. 703-712) prohibits the taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts, and nests, except when specifically authorized by the Department of the Interior. While the Act has no provision for allowing unauthorized take, it must be recognized that some birds may be killed at structures such as communications towers even if all reasonable measures to avoid it are implemented. The Service's Division of Law Enforcement carries out its mission to protect migratory birds not only through investigations and enforcement, but also through fostering relationships with individuals and industries that proactively seek to eliminate their impacts on migratory birds. While it is not possible under the Act to absolve individuals or companies from liability if they follow these recommended guidelines, the Division of Law Enforcement and Department of Justice have used enforcement and prosecutorial discretion in the past regarding individuals or companies who have made good faith efforts to avoid the take of migratory birds.

Please ensure that all field personnel involved in review of FCC licensed communications tower proposals receive copies of this memorandum. Questions regarding this issue should be directed to Dr. Benjamin Tuggle, Chief, Division of Habitat Conservation, at (703)358-2161, or Jon Andrew, Chief, Division of Migratory Bird Management, at (703)358-1714. These guidelines will be incorporated in a Director's Order and placed in the Fish and Wildlife Service Manual at a future date.

Service Interim Guidelines For Recommendations On

Communications Tower Siting, Construction, Operation, and Decommissioning

1. Any company/applicant/licensee proposing to construct a new communications tower should be strongly encouraged to collocate the communications equipment on an existing communication tower or other structure (*e.g.,* billboard, water tower, or building mount). Depending on tower load factors, from 6 to 10 providers may collocate on an existing tower.

2. If collocation is not feasible and a new tower or towers are to be constructed, communications service providers should be strongly encouraged to construct towers no more than 199 feet above ground level (AGL), using construction techniques which do not require guy wires (*e.g.,* use a lattice structure, monopole, etc.). Such towers should be unlighted if Federal Aviation Administration regulations permit.

3. If constructing multiple towers, providers should consider the cumulative impacts of all of those towers to migratory birds and threatened and endangered species as well as the impacts of each individual tower.

4. If at all possible, new towers should be sited within existing "antenna farms" (clusters of towers). Towers should not be sited in or near wetlands, other known

bird concentration areas (*e.g.,* state or Federal refuges, staging areas, rookeries), in known migratory or daily movement flyways, or in habitat of threatened or endangered species. Towers should not be sited in areas with a high incidence of fog, mist, and low ceilings.

5. If taller (>199 feet AGL) towers requiring lights for aviation safety must be constructed, the minimum amount of pilot warning and obstruction avoidance lighting required by the FAA should be used. Unless otherwise required by the FAA, only white (preferable) or red strobe lights should be used at night, and these should be the minimum number, minimum intensity, and minimum number of flashes per minute (longest duration between flashes) allowable by the FAA. The use of solid red or pulsating red warning lights at night should be avoided. Current research indicates that solid or pulsating (beacon) red lights attract night-migrating birds at a much higher rate than white strobe lights. Red strobe lights have not yet been studied.

6. Tower designs using guy wires for support which are proposed to be located in known raptor or waterbird concentration areas or daily movement routes, or in major diurnal migratory bird movement routes or stopover sites, should have daytime visual markers on the wires to prevent collisions by these diurnally moving species. (For guidance on markers, see *Avian Power Line Interaction Committee (APLIC). 1994. Mitigating Bird Collisions with Power Lines: The State of the Art in 1994. Edison Electric Institute, Washington, D.C., 78 pp*, and *Avian Power Line Interaction Committee (APLIC). 1996. Suggested Practices for Raptor Protection on Power Lines. Edison Electric Institute/Raptor Research Foundation, Washington, D.C., 128 pp.* Copies can be obtained via the Internet at http://www.eei.org/resources/pubcat/enviro/, or by calling 1-800/334-5453).

7. Towers and appendant facilities should be sited, designed and constructed so as to avoid or minimize habitat loss within and adjacent to the tower “footprint”. However, a larger tower footprint is preferable to the use of guy wires in construction. Road access and fencing should be minimized to reduce or prevent habitat fragmentation and disturbance, and to reduce above ground obstacles to birds in flight.

8. If significant numbers of breeding, feeding, or roosting birds are known to habitually use the proposed tower construction area, relocation to an alternate site should be recommended. If this is not an option, seasonal restrictions on construction may be advisable in order to avoid disturbance during periods of high bird activity.

9. In order to reduce the number of towers needed in the future, providers should be encouraged to design new towers structurally and electrically to accommodate the applicant/licensee’s antennas and comparable antennas for at least two additional users (minimum of three users for each tower structure), unless this design would require the addition of lights or guy wires to an otherwise unlighted and/or unguyed tower.

10. Security lighting for on-ground facilities and equipment should be down-shielded to keep light within the boundaries of the site.

11. If a tower is constructed or proposed for construction, Service personnel or researchers from the Communication Tower Working Group should be allowed access to the site to evaluate bird use, conduct dead-bird searches, to place net catchments below the towers but above the ground, and to place radar, Global Positioning System, infrared, thermal imagery, and acoustical monitoring equipment as necessary to assess and verify bird movements and to gain information on the impacts of various tower sizes, configurations, and lighting systems.

12. Towers no longer in use or determined to be obsolete should be removed within

12 months of cessation of use.

In order to obtain information on the extent to which these guidelines are being implemented, and to identify any recurring problems with their implementation which may necessitate modifications, letters provided in response to requests for evaluation of proposed towers should contain the following request:

> "In order to obtain information on the usefulness of these guidelines in preventing bird strikes, and to identify any recurring problems with their implementation which may necessitate modifications, please advise us of the final location and specifications of the proposed tower, and which of the measures recommended for the protection of migratory birds were implemented. If any of the recommended measures can not be implemented, please explain why they were not feasible."

Last updated: April 11, 2011

Chapter 23 - NOISE [55]

Sec. 23-1. - Definitions.

The following definitions shall apply to the interpretation of the provisions of this chapter:

(a) All technical terms, unless the context otherwise requires, shall be defined in accordance with the American National Standards Institute publications, as revised. (American Standards Institute, 1430 Broadway, New York, N.Y. 10018)

(b) *"A" band level* shall mean the total sound level of all noise as measured with a sound level meter using the "A" weighting network. The unit is the dbA.

(c) *Ambient noise* shall mean the all-encompassing noise associated with a given environment, usually being a composite of sounds with many sources near and far.

(d) *Commercial district* shall mean the following:

- **(1)** An area where offices, clinics and the facilities needed to serve them are located;
- **(2)** An area with local shopping and service establishment;
- **(3)** A tourist-oriented area where hotels, motels, and gasoline stations are located;
- **(4)** A business strip along a main street containing offices, retail businesses, and commercial enterprises;
- **(5)** Other commercial enterprises and activities which do not involve the manufacturing, process or fabrication of any commodity. "Commercial district" shall include, but not be limited to, any parcel of land zoned commercial or business under the zoning ordinance of the city.

(e) *Commercial purpose* shall mean and include the use, operation, or maintenance of any sound-amplifying equipment for the purpose of advertising any business, any goods, or any services, or for the purpose of attracting the attention of the public to, or advertising for or soliciting the patronage of customers to or for any performance, show, entertainment, exhibition, or event, or for the purpose of demonstrating any such sound equipment.

(f) *Construction activities* shall mean any and all activity incidental to the erection, demolition, assembling, altering, installing or equipping of building, structure, roads or appurtenances thereto, including land clearing, grading, excavating and filling.

(g) *Continuous noise* shall mean a steady, fluctuating, or impulsive noise which exists, essentially without interruption, for a period of ten (10) minutes or more.

(h) *Decibel (db)* shall mean a unit of level which denotes the ratio between two (2) quantities which are proportional to power; the number of decibels corresponding to the ratio of two (2) amounts of power is ten (10) times the logarithm to the base ten of this ratio.

(i) *Device* shall mean any mechanism which is intended to produce or which actually produces sound when operated or handled.

(j) *Emergency work* shall mean work made necessary to restore property to a safe condition following a public calamity or work required to protect persons or property from an imminent exposure to danger.

(k) *Industrial district* shall mean an area in which enterprises and activities which involve the manufacturing, processing or fabrication of any commodity are located. "Industrial district" shall include but not be limited to, any parcel of land zoned as an industrial district, under the zoning ordinance of the city.

(l) *Motor vehicle* shall mean any vehicle such as but not limited to, a passenger vehicle, truck, truck-trailer, trailer or semi-trailer propelled or drawn by mechanical power, and shall include motorcycles, minibikes, go-carts, and any other vehicle

which is self-propelled.

(m) *Noncommercial purpose* shall mean the use, operation, or maintenance of any sound equipment for other than a commercial purpose. Noncommercial purpose shall mean and include, but shall not be limited to, educational, philanthropic, political, patriotic, and charitable purposes.

(n) *Residential district* shall mean an area of single or multiple-family dwellings and shall include areas where multiple unit dwellings, high-rise apartments and high-density residential districts are located. "Residential district" shall also include, but is not limited to, hospitals, nursing homes, homes for the aged, schools, courts and similar institutional facilities.

(o) *Sound-amplifying equipment* shall mean any machine or device for the amplification of the human voice, music, or any other sound. Sound-amplifying equipment shall not include standard automobile radios when used and heard only by the occupants of the vehicle in which the automobile radio is installed. Sound-amplifying equipment, as used in this chapter shall not include warning devices or authorized emergency vehicles or horns or other warning devices on any vehicle used only for traffic safety purposes.

(p) *Sound level meter* shall mean an instrument or apparatus including a microphone, an amplifier, an output meter, and weighting networks for the measurement of sound pressure. The output meter reads sound pressure level when properly calibrated, and the instrument is of type 2 or better, as specified by the American National Standards Institute Publication.

(q) *Sound truck* shall mean any motor vehicle, or any other vehicle regardless of motive power, whether in motion or stationary, having mounted thereon, or attached thereto, any sound-amplifying equipment.

(Ord. No. 9439, 4-26-94; Ord. No. 9511, 4-25-95)

Sec. 23-2. - Unnecessary noise prohibited.

(a) It shall be unlawful for any person to make or continue, or cause to be made or continued, any unnecessary noise within the city.

(b) Except as otherwise permitted herein, the maximum permissible sound pressure levels of any source of sound shall be as herein established for the time period and district listed in Table A of this section. This includes, but is not limited to, sound from such activities as production, processing, cleaning, servicing, testing, operating, or repairing either vehicles, materials, goods, products or devices. This subsection (b) shall not apply to any source of sound proscribed or restricted by subsection (c) of this section. Sound pressure levels in excess of those established for the districts of the city, at times herewith listed, shall constitute prima facie evidence that such sound is an unnecessary noise. Sound pressure levels shall be measured at the approximate location of the property line or the boundary of the public way, at a height of at least four (4) feet above the immediate surrounding surface, on a sound level meter of standard design and operated on the "A" weighting network.

TABLE A

	Sound Pressure Level Limit dB(A)	
	Day	**Night**
District	***(7 a.m.—10 p.m.)***	***(10 p.m.—7 a.m.)***
Residential	**65**	**60**
Commercial	**70**	**65**
Industrial	**85**	**80**

When a noise source can be identified and its noise measured in more than one district, the sound pressure level limits of the most restrictive district shall apply.

The sound pressure level limits, and provisions hereof, applicable to commercial districts shall also apply to any parcel of land zoned agricultural district under the zoning ordinance of the city.

(c) Except as otherwise permitted herein, it shall be unlawful for any person to make or continue, or cause to be made or continued, any unnecessary noise within the city which can be heard by any person at a distance of more than fifty (50) feet. This subsection (c) shall apply to televisions, radios, stereos, CD players, phonographs, or tape players which are being used or played while in transit, including but not limited to, transit by means of carriage by a pedestrian, animal, bicycle, or any motor vehicle, whether private or commercial.

(Ord. No. 9439, 4-26-94; Ord. No. 9511, 4-25-95; Ord. No. 9982, 8-10-99)

Sec. 23-3. - Construction, power equipment.

(a) Except as otherwise provided in this chapter, no person shall engage in, cause or permit any person to be engaged in construction activities in any residential or commercial district between the hours of 9:00 p.m. of one day and 7:00 a.m. of the following day.

Construction projects shall be subject to the maximum permissible noise level specified for industrial districts for the periods within which construction is to be completed pursuant to any applicable building permit.

Construction activities directly connected with the abatement of an emergency are excluded from the provisions of this section.

(b) No person shall operate on any property within a residential or commercial district or on any public way within a residential or commercial district, any power equipment, such as but not limited to, chain saws, pavement breakers, log chippers, riding tractors, powered hand tools, between the hours of 10:00 p.m. of one day and 7:00 a.m. of the next day or within residential, commercial or industrial noise districts between the hours of 7:00 a.m. and 10:00 p.m. which emits a noise level in excess of the levels set in section 23-2

(Ord. No. 9439, 4-26-94; Ord. No. 9511, 4-25-95)

Sec. 23-4. - Sound amplifiers.

(a) *Prohibition.* It shall be unlawful to maintain or operate any loudspeaker or amplifier connected with any television, radio, stereo, CD player, phonograph, microphone, or other device by which sounds are magnified and made heard over any public street or public place without having first secured a permit therefor.

(b) *Registration.*

(1) Every user of sound-amplifying equipment shall file a registration statement with the director of administration five (5) days prior to the date on which the sound-amplifying equipment is intended to be used, which statement shall contain the following information:

a. The name, address and telephone number of both the owner and user of the sound-amplifying equipment;

b. The maximum sound-producing power of the sound-amplifying equipment which shall include the wattage to be used, the volume in decibels of sound which will be produced, and the approximate distance for which sound will be audible from the sound-amplifying equipment;

c. The license and motor number if a sound truck is to be used;

d. A general description of the sound-amplifying equipment which is to be used; and

e. Whether the sound-amplifying equipment will be used for commercial or noncommercial purposes.

(2) Registration statement; approval. The director of administration shall return to the applicant an approved certified copy of the registration statement unless he finds that:

a. The conditions of the motor vehicle movement are such that use of the equipment would constitute a detriment to traffic safety; or

b. The conditions of pedestrian movement are such that use of the equipment would constitute a detriment to traffic safety; or

c. The registration statement reveals that the applicant would not be able to comply with the provisions of this chapter.

d. The applicant and/or the applicant's group, associates, etc., have violated the sound permit provisions herein within a period of six (6) months of the requested date in the present application.

(3) Registration statements; disapproval. In the event the registration statement is disapproved, the director of administration shall endorse upon the statement his reasons for disapproval and return it forthwith to applicant.

(c) *Fees.* Prior to the issuance of the registration statement, a fee in the amount of twenty-five dollars ($25.00) per day, or any portion thereof, shall be paid to the city, if the loudspeaker or sound-amplifying equipment is to be used for commercial purposes. No fee shall be required for the operation of a loudspeaker or sound-amplifying equipment for noncommercial purposes.

(d) *Regulations.* The commercial and noncommercial use of sound-amplifying equipment shall be subject to the following regulations:

(1) The only sounds permitted shall be either music or human speech, or both.

(2) The operation of sound-amplifying equipment shall only occur between the hours of 8:00 a.m. and 10:00 p.m. each day except on Sundays and legal holidays. The operation of sound-amplifying equipment on Sundays and legal holidays shall only occur between the hours of 10:00 a.m. and 10:00 p.m.

(3) No sound emanating from sound-amplifying equipment shall exceed the limits set in section 23-2

(4) It shall be unlawful to operate any sound-amplifying equipment within two hundred (200) feet of churches, schools, hospitals, city, parish or state buildings.

(e) *Exceptions.* This section shall not apply to radios in homes or in private pleasure vehicles when the same are operated in such manner as to comply with section 23-2 herein, nor to noise devices, bands, or other musical devices used in any public parade or procession which is operated under a permit in accordance with the ordinances of the city.

(f) [*Obscenity prohibited.*] No licensee shall use or permit to be emanated or emitted from any such device, any lewd, obscene, profane, or indecent language or sounds, or any false representation of any matter, product or project advertised thereby, the sale of which is prohibited by any law, ordinance or statute.

(g) *Limitations.* The provisions of this section shall not apply to any bell or chime or any device for the production or reproduction of the sound of bells or chimes from any church, clock or school.

(h) *Violation of permit.* In addition to the penalty set forth in section 23-11, any violation of the sound permit shall disqualify the applicant and/or the applicant's group, associates, etc., from receiving another sound permit for a period of six (6) months from the date of the violation.

(Ord. No. 9439, 4-26-94; Ord. No. 9511, 4-25-95)

Sec. 23-5. - Animals and fowl.

No person shall keep or maintain, or permit the keeping of, upon any premises owned, occupied, or controlled by such person any animal or fowl otherwise permitted to be kept which, by any sound, cry, or behavior, shall violate the provisions of section 23-2.

(Ord. No. 9439, 4-26-94; Ord. No. 9511, 4-25-95)

Sec. 23-6. - Bells and chimes.

It shall be unlawful for any person to use, operate, cause or permit to be sounded any bell or chime or any device for the production or reproduction of the sounds of bells or chimes, from any church, clock or school, between the hours of 10:00 p.m. of one day and 7:00 a.m. of the following day.

(Ord. No. 9439, 4-26-94; Ord. No. 9511, 4-25-95)

Sec. 23-7. - Drums.

It shall be unlawful for any person to use any drum or other instrument or device of any kind for the purpose of attracting attention by the creation of noise within the city. This section shall not apply to any person who is a participant in a school band or duly licensed parade or who has been otherwise duly authorized to engage in such conduct.

(Ord. No. 9439, 4-26-94; Ord. No. 9511, 4-25-95)

Sec. 23-8. - Hawkers and peddlers.

It shall be unlawful for any person within the city to sell anything by outcry within any area of the city zoned for residential uses. The provisions of this section shall not be construed to prohibit the selling by outcry of merchandise, food, and beverages at licensed sporting events, parades, fairs, circuses, and other similar licensed public entertainment events.

(Ord. No. 9439, 4-26-94; Ord. No. 9511, 4-25-95)

Sec. 23-9. - Warning signals.

No person shall sound any horn or signalling device on any truck, automobile, motorcycle, or other vehicle on any street or highway within the municipality, except as a danger warning, and then only for a reasonable period of time.

(Ord. No. 9439, 4-26-94; Ord. No. 9511, 4-25-95)

Sec. 23-10. - Exceptions.

Noise or sound generated by the following activities shall not be subject to this chapter:

(1) Cries for emergency assistance or warning calls;

(2) Radios, sirens, horns and/or bells on police, fire and other emergency response vehicles;

(3) Parades, displays and other events for which a special permit has been obtained from the city, when operated or conducted within the conditions set forth in the permit;

(4) Activities regularly scheduled in municipal and educational facilities;

(5) Fire alarms and burglar alarms, prior to the giving or notice and reasonable opportunity for the owner or tenant in possession of the premise served by such alarm to turn it off;

(6) Locomotive, other railroad equipment and signals, aircraft and boats on navigable waterways.

(Ord. No. 9439, 4-26-94; Ord. No. 9511, 4-25-95)

Sec. 23-11. - Penalty.

Any person, firm or corporation violating any provision of this chapter shall be issued a summons and upon conviction shall be fined not less than five dollars ($5.00) nor more than five hundred dollars ($500.00) for each offense; and a separate offense shall be deemed committed on each day during or on which a violation occurs or continues.

(Ord. No. 9439, 4-26-94; Ord. No. 9511, 4-25-95; Ord. No. 9982, 8-10-99)

FOOTNOTE(S):

(55) ***Editor's note—*** *Ord. No. 9439, adopted Apr. 26, 1994, amended the Code by repealing former Ch. 23, §§ 23-1—23-3 and adding a new Ch. 3, §§ 23-1—23-11. Former Ch. 3 pertained to similar provisions and derived from the Code of 1958, §§ 19-2—19-6.* *(Back)*

(55) ***Cross reference—*** *Advertising and signs, Ch. 3; disturbing the peace, § 12-153.* *(Back)*