DOE/EA-1415

ENVIRONMENTAL ASSESSMENT
PROPOSED CONVEYANCE
OF THE
AMERICAN MUSEUM OF SCIENCE AND ENERGY
AND ASSOCIATED PROPERTY,
PARCEL G, AND PARCEL 279.01

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U.S. Department of Energy
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ABBREVIATIONS AND ACRONYMS

AMSE	American Museum of Science and Energy
AURP	Association of University Research Parks
BJC	Bechtel Jacobs Company LLC
BMP	best management practice
CAA	Clean Air Act of 1970
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act of 1980
CFR	*Code of Federal Regulations*
CROET	Community Reuse Organization of East Tennessee
dBA	A-weighted decibels
DOE	U.S. Department of Energy
EA	environmental assessment
EIS	Environmental Impact Statement
EPA	U.S. Environmental Protection Agency
ETTP	East Tennessee Technology Park
FIR	Federal Industry and Research
FONSI	Finding of No Significant Impact
FPPA	Farmland Protection Policy Act of 1981
FRP	Facilities Revitalization Project
FWS	U.S. Fish and Wildlife Service
FY	fiscal year
GSA	General Services Administration
IVSTP	Innovation Valley Science and Technology Park
LESA	Land Evaluation and Site Assessment
MOA	Memorandum of Agreement
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act of 1969
NHPA	National Historic Preservation Act of 1966
NRCE	National Register Criteria for Evaluation
NRHP	National Register of Historic Places
OMB	Office of Management and Budget
ORISE	Oak Ridge Institute for Science and Education
ORNL	Oak Ridge National Laboratory
ORO	Oak Ridge Office
ORR	Oak Ridge Reservation
PAH	polycyclic aromatic hydrocarbon
PILT	payment-in-lieu-of-tax
PSD	prevention of significant deterioration
RI/FS	remedial investigation/feasibility study
ROI	region of influence
ROW	right-of-way
SNS	Spallation Neutron Source
SR	state route
SVOC	semivolatile organic compound
TCE	trichloroethene
TDEC	Tennessee Department of Environment and Conservation
TDOT	Tennessee Department of Transportation
TN-SHPO	Tennessee State Historic Preservation Officer

TRU	transuranic
TVA	Tennessee Valley Authority
USACE	U.S. Army Corps of Engineers
U.S.C.	United States Code
VOC	volatile organic compound
Y-12	Y-12 National Security Complex

1. INTRODUCTION

1.1 PURPOSE AND NEED FOR U.S. DEPARTMENT OF ENERGY ACTION

The proposed action evaluated in this environmental assessment (EA) is the U.S. Department of Energy (DOE) conveyance of the American Museum of Science and Energy (AMSE) and associated property, Parcel G, and Parcel 279.01. The purpose of the proposed DOE action is to provide for the long-term financial stability of the AMSE to preserve the museum as an asset to the city of Oak Ridge and the surrounding region. The proposed conveyance is also intended to help offset the long-term cost of operating the museum. The purpose of the proposed action is also to convey excess (i.e., property not needed to fulfill DOE current or foreseeable future missions) DOE-Oak Ridge Office (ORO) real property (i.e., buildings and land) for economic development to help offset potential economic losses resulting from DOE downsizing, facility closeouts, and work force restructuring.

The need for DOE action arose from the elimination on October 1, 2000, of approximately $1.2 million in federal funds that, in the past, have been available to operate the museum. Funding alternatives must be pursued that are consistent with both DOE's intentions and the economic development priorities of the region. DOE also recognizes that transferring excess land and facilities for local economic development purposes can benefit the federal government by reducing or eliminating DOE's landlord costs.

1.2 BACKGROUND

From 1949 until October 2000, DOE and its predecessors have provided funding and oversight of the museum's management. The Administration's fiscal year (FY) 1998 budget initiated a phasing out, over a 2-year period, of federal direct funding for AMSE's operation through the Oak Ridge Landlord account. The decision to eliminate AMSE's federal funding stemmed from concerns raised by the Office of Management and Budget (OMB) about whether the operation of a museum is an appropriate mission for DOE. Federal funds to AMSE in FY 2000 totaled $1.2 million, down from $1.5 million in FY 1998.

Dr. James Decker, Acting Director of the Office of Science, testified on March 1, 2000, before the House Subcommittee on Energy and Environment that "alternative funding mechanisms are being developed" to cover the continued operating costs of the museum. Dr. Decker's testimony referred to DOE's requirement that Oak Ridge National Laboratory's (ORNL's) new contractor, UT-Battelle, provide, by October 31, 2000, a plan for AMSE's financial stability. In October 2000, UT-Battelle submitted a report to DOE entitled "A Plan for the Museum's Long-term Financial Stability" (UT-Battelle 2000). DOE used the report to help develop the proposed action being evaluated, and it provided much of the information contained in this EA.

AMSE, formerly the American Museum of Atomic Energy, opened in March 1949. During its first 29 years, the museum's exhibits emphasized atomic energy. The energy theme was broadened in 1978, when the museum was renamed with its present title to reflect more clearly the mission of the newly created DOE. Working with a number of operating contractors, DOE-ORO has provided oversight of the museum's contracts and management policies. In October 1998, DOE transferred management responsibility for the museum, including supervision of AMSE's operating contractor, to UT-Battelle. DOE has retained oversight of AMSE's personnel and operating policies. In FY 2001, UT-Battelle provided approximately $1.2 million from their overhead account to operate AMSE. Since then, about $1.5 million in funding has been shared among DOE's three major contractors [UT-Battelle, BWXT Y-12 National Security Complex (Y-12), and the Bechtel Jacobs Company LLC (BJC)]. The AMSE currently generates roughly

$350,000 in annual revenues based on admissions, memberships, rental, and retail sales. Grants and exhibit sponsorships generate additional revenue (Stow 2006).

The AMSE and associated property, Parcel G, and Parcel 279.01 are all located within the city limits of Oak Ridge (Fig. 1.1). The AMSE property (Parcel 482) is located between South Tulane Avenue and Badger Avenue on 15.43 acres. The associated property (Parcel 483) is located adjacent to the AMSE on 1.79 acres between South Illinois Avenue and Tulane Place. Parcel G contains about 20.0 acres and is located southeast of the intersection of Bethel Valley and Scarboro roads. A portion of Parcel G is within the area of the Oak Ridge Institute for Science and Education (ORISE) Scarboro Operations Site. Parcel 279.01 is a small piece of undeveloped property (0.662 acre) located on the corner of Laboratory Road and Administration Road.

1.3 SCOPE OF THIS ENVIRONMENTAL ASSESSMENT

This EA presents information on the potential impacts associated with the proposed conveyance. DOE has prepared this EA to assess the potential consequences of its activities on the human environment in accordance with the Council on Environmental Quality (CEQ) regulations [40 *Code of Federal Regulations* (*CFR*) Parts 1500–1508][1] implementing National Environmental Policy Act of 1969 (NEPA) and DOE NEPA Implementing Procedures (10 *CFR* 1021). If the impacts associated with the proposed action are not identified as significant as a result of this EA, DOE shall issue a Finding of No Significant Impact (FONSI) and will proceed with the action. If impacts are identified as potentially significant, an Environmental Impact Statement (EIS) will be prepared.

This EA (1) describes the existing environment for each parcel relevant to potential impacts of the proposed action and alternatives; (2) analyzes potential environmental impacts, including those from development of a range of uses; (3) identifies and characterizes cumulative impacts that could result from the proposed action in relation to other ongoing or proposed activities within the surrounding area; and (4) provides DOE with environmental information for use in prescribing restrictions to protect, preserve, and enhance the human environment and natural ecosystems.

Certain aspects of the proposed action have a greater potential for creating adverse environmental impacts than others. For this reason, CEQ regulations (40 *CFR* 1502.1 and 1502.2) recommend a "sliding-scale" approach so that those actions with greater potential effect can be discussed in greater detail in NEPA documents than those that have little potential for impact.

Implementation of the proposed action also requires compliance with Sect. 120 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA). Section 120(h) requires the identification of uncontaminated property transferred by federal agencies. This identification is based on an investigation of the property to determine the presence or likely presence of a release or threatened release of any hazardous substance or any petroleum product or its derivatives on the property.

DOE prepared CERCLA Sect. 120(h) reports (DOE 2002a and 2002b) to satisfy this requirement. The reports document the review of the properties and pertinent records to identify any areas where hazardous substances or petroleum products were known to have been released or disposed of. Based on its investigation and the information set forth in the documents, DOE has identified the AMSE, Parcel G,

[1] *Code of Federal Regulations.*

and Parcel 279.01 as "uncontaminated property" in accordance with CERCLA Sect. 120(h)(4)(A). The results of the investigation were provided to the U.S. Environmental Protection Agency (EPA), Tennessee Department of Environment and Conservation (TDEC), and city of Oak Ridge officials. The state of Tennessee and EPA concurred with DOE's determination. Copies of the correspondence from these agencies are included in Appendix A.

2. DESCRIPTION OF ALTERNATIVES

2.1 PROPOSED ACTION

DOE proposes to convey the AMSE and associated property, Parcel G, and Parcel 279.01 to the American Museum of Science and Energy Foundation, city of Oak Ridge, or other managing entity. The managing entity would oversee the operation of the AMSE and would develop Parcel G, Parcel 279.01, and the property associated with the AMSE for a variety of uses. Upon completion of the conveyance, the managing entity would also take a leadership role in a development campaign designed to establish an endowment for the museum.

After having established the $10 to $15 million endowment, the AMSE would be able to fund its $1.8 million annual budget without the need for further allowable cost revenues from DOE contractors. This funding would come from increased AMSE revenues, AMSE endowment revenues, grants, and other private and corporate gifts (AMSEF 2006).

The process for transferring real property at defense nuclear facilities for economic development is described in a DOE-issued interim final rule, "Transfer of Real Property at Defense Nuclear Facilities for Economic Development" (10 *CFR* Part 770). The rule became effective on February 29, 2000 (65 *Federal Register* 10685). The *Federal Register* notice of the rule is provided in Appendix B. The AMSE facility and property are proposed for conveyance because federal funding for the museum's operation has been eliminated due to OMB concerns (see Sect. 1.2). Parcel G and Parcel 279.01 are being conveyed because DOE has determined that they are excess.

Because specific uses of Parcel G, Parcel 279.01, and the property associated with the AMSE would not be known prior to the conveyance, DOE has developed reasonably foreseeable scenarios and uses to bound the impacts analysis. Scenarios identify potential tenants, utilities and infrastructure, areas to be excluded from development, and a range of emissions, effluents, and wastes that could result from commercial and industrial activities. Parcel G may be developed for small-scale offices, light industrial use, or retail businesses. Because of the small size of Parcel 279.01 (0.662 acres), it could be suitable for a small office or retail business. The open property located in front of the AMSE, along South Illinois Avenue, may be suitable for retail businesses or offices.

2.2 NO ACTION ALTERNATIVE

The no action alternative provides an environmental baseline with which impacts of the proposed action and alternatives can be compared. The no action alternative must be considered even if DOE is under a court order or legislative command to act. See 10 *CFR* 1021.321(c).

Under the no action alternative, UT-Battelle, BWXT Y-12, and BJC would continue to fund the operation of the museum. It is anticipated that these contractors would not be able to continue this type of funding on a long-term basis, and, at some time in the future, the museum could be forced to close or limit hours of operation because of the lack of continued funding. Parcel G and Parcel 279.01 would remain DOE property. However, because these two parcels have been determined by DOE to be excess, at some time in the future DOE could choose to dispose of them through the appropriate regulatory processes.

2.3 ALTERNATIVES DISMISSED FROM CONSIDERATION

2.3.1 Conveyance to the GSA

If at sometime in the future AMSE was determined to be excess property, DOE could report the museum along with Parcel G and Parcel 279.01 to the General Services Administration (GSA) for disposition as an alternative to the proposed action. The requirements of the Federal Property and Administrative Services Act of 1949 and the Federal Property Management Regulations (41 *CFR* Parts 101-47 and 109) govern this process. The GSA screens other federal agencies to determine their interest in the property. If no federal agencies indicate any interest, the property is declared surplus to the Federal Government and made available to the non-federal public sector. If no public entities express interest, the property can be sold to the private sector. Because GSA takes on much of the responsibility with these types of conveyances, DOE has less control over the ultimate use of the property.

Because the AMSE is considered to be such a valuable asset to the city of Oak Ridge and the surrounding region, and because AMSE's future is a fundamental component of the city's desire to expand tourism and protect the community's historical legacy, this alternative was dismissed from detailed consideration.

3. AFFECTED ENVIRONMENT

3.1 LAND AND FACILITY USE

The AMSE is located on 15.43 acres of government-owned land (Fig. 3.1) and has operated in its present facility since 1975. The museum occupies a 53,000 ft^2, two-story building that includes 8 exhibit halls, 2 lecture/demonstration rooms, a 300-seat auditorium, a classroom laboratory, a large lobby with recessed display areas, a retail gift shop, and offices. An adjacent building leased by the city houses the Oak Ridge Convention and Visitors Bureau. A storage trailer and warehouse located behind the main facility provide an additional 2300 ft^2. The property also includes a picnic area; a parking area to accommodate 272 automobiles, 12 buses, or 12 cars with trailers; and 4 parking spaces for the handicapped. A large, 1.79-acre open area (Parcel 483) is located between Tulane Place and South Illinois Avenue, and a smaller, open area is located behind the museum. Adjacent land use to AMSE is predominantly commercial, and the city's municipal complex is located adjacent to the rear of the museum property. The portion of the property located between Tulane Place and South Illinois Avenue is currently zoned by the city of Oak Ridge as RG-1 (Residential, Open Space, and Reserved Districts). The main portion of the property is zoned as O-2 (Office Districts).

Parcel G contains about 20.0 acres and is located southeast of the intersection of Bethel Valley and Scarboro roads (Fig. 3.2). A portion of Parcel G is within the area of the ORISE Scarboro Operations Site (formerly the South Campus Facility). The Scarboro Operations Site supported research on the biological effects of radionuclides on animals. The portion of Parcel G that is within the boundary of the Scarboro Operations Site was an area where only unexposed animals were housed or grazed. In addition to pasture, the area contained various barns and a three-tiered swine waste treatment pond system. Hay is periodically cut off of the remaining pasture area. A small area in the eastern portion of the property is currently wooded. Scarboro Creek and an associated drainage also cross the site. A narrow riparian zone and some wetlands also occur along the creek. Nearby land uses include the Y-12 Complex buffer area, Bethel Valley Industrial Park, Commerce Park, and the University of Tennessee Forestry Station and Arboretum. Parcel G is currently zoned by the city of Oak Ridge as FIR (Federal Industry and Research).

Parcel 279.01 is a small piece of undeveloped property (0.662 acre) located on the corner of Laboratory Road and Administration Road (Fig. 3.3). This parcel is open with mowed lawn and a few scattered trees. Adjacent land use includes a soccer field and an office supply business. A vacant parcel and the Laboratory Road entrance to the Roane State Community College, Oak Ridge Branch, are located directly across from Parcel 279.01. The current city of Oak Ridge zoning for Parcel 279.01 is O-2 (Office Districts).

3.2 AIR QUALITY

The state of Tennessee has adopted the National Ambient Air Quality Standards (NAAQS) set by EPA for six principal pollutants considered harmful to public health and the environment. These pollutants include particulate matter with an aerodynamic diameter less than or equal to 10 microns (PM_{10}) and 2.5 microns ($PM_{2.5}$) in diameter, sulfur dioxide (SO_2), carbon monoxide (CO), nitrogen dioxide (NO_2), lead (Pb), and ozone (O_3). Based on the ambient (outdoor) levels of the criteria pollutants, EPA evaluates individual Air Quality Control Regions to establish whether or not they meet NAAQS. Areas that meet NAAQS are classified as attainment areas; areas that exceed NAAQS for a particular pollutant(s) are classified as non-attainment areas for the pollutant(s).

Air quality surrounding the Oak Ridge area is relatively good. However, Anderson County has been designated as a non-attainment area for the 8-hr ground level O_3 standard, as part of the larger Knoxville non-attainment area. Also, Anderson County and a portion of Roane County have been designated as non-attainment for the new, stricter federal fine particulate matter ($PM_{2.5}$) air quality standard. For all other criteria pollutants for which EPA has made attainment designations, existing air quality in the greater Knoxville and Oak Ridge areas is in attainment with NAAQS.

Oak Ridge is located in a Class II prevention-of-significant-deterioration (PSD) area. One set of allowable increments exists for Class II PSD areas, and more stringent increments apply to Class I PSD areas, which include national parks that exceed 6000 acres and some other national parks, monuments, wilderness areas, and other areas specified in 40 *CFR* 51.166. The nearest such area is the Great Smoky Mountains National Park, located about 35 miles southeast of Oak Ridge. PSD standards exist for SO_2, NO_2, and PM-10.

3.3 GEOLOGY AND SOILS

3.3.1 Site Geology

Oak Ridge lies within the Valley and Ridge Physiographic Province of the Southern Appalachian Mountains. The Valley and Ridge Province in Tennessee consists of Cambrian- to Ordovician-age sedimentary rocks that occur as northeast-southwest-trending thrust sheets formed during the Late Paleozoic Appalachian mountain-building episode. These thrust sheets have brought older rocks overlying younger rocks at the base of each thrust sheet. Because the internal layers of each thrust sheet are similar to those on either side, the rock outcrop sequence for each sheet is similar. This has produced similar topography on each sheet. Ultimately, this has created the pattern of parallel valleys and ridges characteristic of the region. Erosion-resistant sandstones, siltstones, dolomites, and cherty formation help form the higher ridges while less-resistant limestones and shales underlie the valleys. Karst processes that form sinkholes and cavern systems have created extensive underground drainage networks in the more soluble carbonate-rich rocks.

The typical sequence of rocks outcropping in the Valley and Ridge Province include, from older to younger, Cambrian-age Rome Formation shales, siltstones, and sandstones, Cambrian-age Conasauga limestones and shales, Cambrian-Ordovician-age Knox Group cherty dolomites and limestones, Ordovician-age Chickamauga Group limestones and shales, and much less extensive outcrops of Silurian- through Mississippian-age rocks.

There are no detailed geologic investigations of the AMSE site. Regional geologic maps indicate that the undivided members of the Chickamauga Group underlie the AMSE (Hatcher et al. 1992). This unit consists mostly of the Chickamauga Limestone with minor components of siltstones and shales.

There are no detailed geologic investigations of the Parcel 279.01 site. Regional geologic maps indicate that the undivided members of the Chickamauga Group underlie Parcel 279.01 (Hatcher et al. 1992). This unit consists mostly of the Chickamauga Limestone with minor components of siltstones and shales.

The 1700-ft-thick Chickamauga Group underlies Parcel G (DOE 1995). This group is a sequence of gray limestone with interbedded maroon, shale-dominated units. Three formations of the Chickamauga Group underlie Parcel G: the Witten, Bowen, and Benholt Formations. These formations are oriented in a northeasterly-southwesterly direction and dip 35° to the southeast.

3.3.2 Soils

The Anderson County Soil Survey (Moneymaker 1981) identifies 11 soil types at the three properties (AMSE, Parcel 279.01, and Parcel G). There are two soil types at AMSE, one soil type at Parcel 279.01, and 10 soil types at Parcel G. Soils at these sites formed from a variety of parent materials, including weathered limestone and shale residuum, or from local alluvial deposits. Soils in the area are composed mostly of silty and clayey materials. Surface textures are usually loamy with increasing concentrations of silts and clays in deeper soil horizons. Most soils are moderately well-drained to well-drained, and soil depths range from 4 to 21 ft below ground surface (DOE 1995). Soil reaction ranges from very strongly acid (pH 4.5 to 5.5) to mildly alkaline (pH 7.4 to 7.8). Most of these soils in the project area show evidence of moderate to severe erosion or disturbance from past agricultural use, construction, grading, and other development. Emory and Hamblen soils mapped at Parcel G experience occasional flooding (p = 0.05 to 0.5/year) for very brief duration (<2 consecutive days) from early winter to early spring (December to March).

Prime farmland is land that has the best combination of physical and chemical characteristics for producing crops of statewide or local importance. Prime farmland is protected by the Farmland Protection Policy Act of 1981 (FPPA), which seeks "… to minimize the extent to which federal programs contribute to the unnecessary and irreversible conversion of farmlands to nonagricultural uses…" [7 U.S.C. 4201(b)].

Four soil types that occur at two of the three DOE properties (one at AMSE and three at Parcel G) are considered prime farmland in Anderson County, Tennessee. These four soil types are Capshaw silt loam (2 to 5% slopes) at the AMSE, and Emory silt loam (0 to 4% slopes), Hamblen silt loam (0 to 2% slopes), and Tasso silt loam (2 to 7% slopes) at Parcel G.

3.4 WATER RESOURCES

3.4.1 Groundwater

The principal aquifers in the Oak Ridge area include two general hydrologic units, the Knox Aquifer and the Oak Ridge Reservation (ORR) Aquitards. The Knox Aquifer includes the Knox Group and Maynardville Limestone of the Conasauga Group. Flow in the Knox Aquifer is primarily through solution cavities and enlarged fractures. The ORR Aquitards are associated with the remaining geologic units in the area, including the Chickamauga Group that underlies Parcel G. Hydraulic conductivity and potential yield in the ORR Aquitards is generally low and highly variable, depending on the density, width, and interconnectedness of local bedrock fractures and solution cavities.

3.4.1.1 Groundwater use

Groundwater is not used for agricultural, drinking, or industrial purposes in Oak Ridge. All water users in the area obtain water directly from the Oak Ridge municipal water system. A well survey conducted for the South Campus Facility remedial investigation/feasibility study (RI/FS; DOE 1995) indicated that there were no groundwater wells that extracted water from the Chickamauga Group within a 3-mile radius of Parcel G.

3.4.1.2 Groundwater monitoring

There are no groundwater monitoring wells at the AMSE or at Parcel 279.01. No groundwater monitoring wells are located within Parcel G. Monitoring wells are located on the adjacent ORISE Scarboro Operations Site. A 1991 site investigation of the Scarboro Operations Site identified a small

trichloroethene (TCE) plume in the groundwater near a mechanical shop. This plume does not affect Parcel G because it is located on the adjacent property. The South Campus Facility RI/FS (DOE 1995) concluded that the site posed no unacceptable risk to humans or the environment, provided that groundwater is not used for human consumption. It was anticipated that the TCE in groundwater would naturally attenuate and, therefore, no remedial action was considered necessary. Groundwater samples are collected biannually from five locations specified in the record of decision for the South Campus Facility. In addition, a statement was added to the property title at the Anderson County Courthouse notifying potential property owners to the contamination. Groundwater samples are analyzed for TCE, associated degradation products, and physical and chemical biodegradation indicators. Preliminary interpretations of the existing data indicate a strong likelihood that TCE is degrading in the subsurface (DOE 2001a).

3.4.2 Surface Water

There are no surface water features at the AMSE. Storm water runoff from the AMSE drains to the southwest into a wet-weather conveyance south of the museum parking lot and the city of Oak Ridge's storm sewer system, which both eventually discharge into East Fork Poplar Creek.

There are no surface water features at Parcel 279.01. Storm water runoff from Laboratory Road drains to the north into a wet-weather conveyance that eventually discharges into Ernie's Creek, which in turn discharges into the Clinch River.

Surface water resources at Parcel G include Scarboro Creek, an intermittent stream, and three old farm ponds. Storm water runoff from Parcel G and portions of Bethel Valley Road, South Illinois Avenue [state route (SR) 62], drains into Scarboro Creek, which discharges into the Scarboro Creek embayment, a 20-acre arm of Melton Hill Lake (Clinch River).

Scarboro Creek is a perennial stream that rises in Union Valley, about 1.5 miles north of the site. The stream develops on the south slopes of Pine Ridge, flows through the water gap along South Illinois Avenue (SR 62), and then opens into the Scarboro Creek embayment. Scarboro Creek flows for about 768 ft across Parcel G. During base flow conditions the creek is about 10 ft wide and 0.5 ft deep. The watershed of Scarboro Creek covers about 640 acres. Estimated mean annual discharge in Scarboro Creek is about 13 gal/second/mile^2. Stream flow is sustained by groundwater during the dry periods, making Scarboro Creek a gaining stream in the vicinity of Parcel G.

There is an unnamed, intermittent tributary to Scarboro Creek on Parcel G. This stream drains the south side of Chestnut Ridge, north of Bethel Valley Road and South Illinois Avenue, and enters Parcel G on the eastern edge of the site. The stream then flows about 576 ft before it discharges into Scarboro Creek.

The three old farm ponds were originally built to treat waste from swine housed at Parcel G. These ponds were designated as Swine Waste Ponds 1, 2, and 3. Numerical designations represent the sequence in which the ponds received waste from the swine barns. Waste first entered Pond 1, which was connected by underground drain line to Pond 2, which was connected to Pond 3. These ponds have not been used to treat swine waste since 1965. Pond 1 has a surface area of about 0.47 acre and a maximum depth of about 20 ft. Pond 2 has a surface area of about 0.38 acre and a range in depth of 5 to 10 ft. Pond 3 is about 0.56 acre and close to the same depth as Pond 2; however, Pond 3 is rarely inundated and has developed as a small wetland.

3.4.2.1 Surface water monitoring and quality

As part of the South Campus Facility RI/FS (DOE 1995), 18 surface water samples were collected from 10 locations along Scarboro Creek. Six sampling locations were within the site, one location was just north of Bethel Valley Road, and three locations were upstream within the UT Arboretum.

No volatile organic compounds (VOCs) were detected, but one location (SCF1-24) was found to contain polychlorinated pentaphenyl compounds using immunoassay field screening. Semivolatile organic compounds (SVOCs) [primarily polycyclic aromatic hydrocarbons (PAHs)] were detected at equivalent levels within the site and in the upstream samples. The levels of PAH compounds detected are probably the result of automobile exhaust and road run-off that has petroleum products from the asphalt and engine leakage. Nine samples from within the site and four upstream samples were submitted for Neutron Activation Analysis metals screening. None of the metals detected was at an elevated level indicating any potential contamination concerns.

As part of the RI/FS investigation, surface water samples were also collected from the swine waste ponds. No VOCs, SVOCs, pesticides, or polychlorinated biphenyls were detected. Methoxychlor was detected in one surface water sample from Swine Waste Pond 1 at a concentration of 0.014 µg/L. Barium, calcium, iron, magnesium, manganese, potassium, silver, and sodium were detected in the water from all three ponds. All of the concentrations were within the range of background surface water samples collected from Scarboro Creek, upstream of the site. Aluminum and arsenic were detected in one surface water sample from Swine Waste Pond 1 at 708 µg/L and 35 µg/L, respectively.

3.5 FLOODPLAINS AND WETLANDS

3.5.1 Floodplains

Floodplains consist of mostly level land along rivers and streams that may occasionally be submerged by floodwaters.

Both the AMSE and Parcel 279.01 lie outside the published Oak Ridge flood hazard zone boundaries. The Flood Insurance Rate Maps prepared for Oak Ridge specifically exclude the ORR from evaluation, and there are no published sources of floodplain information for the portion of Scarboro Creek that flows across Parcel G. Therefore, flood stage elevations for Scarboro Creek and Parcel G were estimated using regression equations developed by the U.S. Geological Survey for small watersheds (Gamble 1983). Using this technique, the maximum flood depth for the 100-year flood was estimated at 5.32 ft above base flow.

3.5.2 Wetlands

The U.S. Army Corps of Engineers (USACE) defines wetlands as “those areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions” (Environmental Laboratory 1987). Wetlands usually include swamps, marshes, bogs, and similar areas. In identifying a wetland, three characteristics must be present. First is the dominance of hydrophytic vegetation (plants that have morphological or physiological adaptations to grow, compete, or persist in anaerobic soil conditions). Second, hydric soils are present and possess characteristics that are associated with reducing (anaerobic or low oxygen) soil conditions. Third, wetland hydrology must be present [i.e., the site must be flooded at depths 6.6 ft or saturated for sufficient duration during the growing season to create anaerobic conditions at the site] (Environmental Laboratory 1987).

There are no wetlands associated with the AMSE property or with Parcel 279.01. Parcel G and the adjacent DOE property to the south support a palustrine emergent/scrub-shrub wetland system along Scarboro Creek totaling approximately 3.4 acres. All wetlands identified at Parcel G exhibited positive field indicators of the wetland criteria: hydrophytic plants, hydric soils, and wetland hydrology. The majority of these wetlands are associated with the floodplain of Scarboro Creek, the Scarboro Creek embayment (part of Melton Hill Reservoir), and two beaver ponds in Scarboro Creek immediately south of Parcel G. The wetlands within the portion of Parcel G being considered for conveyance are located along Scarboro Creek and total about 1 acre. These wetlands range in width from 5 to 30 ft and flank the creek as it crosses the parcel. Wetland vegetation consists of persistent and nonpersistent, herbaceous, and wetland shrubs. Periodic flooding of Scarboro Creek and numerous groundwater seeps controls wetland hydrology.

Parts of Swine Waste Pond 2 and all of Swine Waste Pond 3 have developed characteristics of wetlands and could be regulated as waters of the state. Although they were originally created to treat swine waste, that function ceased decades ago when animal research operations ended at Parcel G. Since that time, the ponds have maintained their hydrologic status and now support wetland vegetation. Both ponds now function as isolated wetlands. This is especially true of Pond 3, which has developed as a periodically inundated wetland dominated by persistent and nonpersistent emergent wetland plants. Additional information about the wetlands on Parcel G and the adjacent DOE property is contained in a Wetlands Assessment prepared for the proposed action (Appendix C).

3.6 ECOLOGICAL RESOURCES

3.6.1 Terrestrial Habitat

The Oak Ridge area provides a variety of habitat types that support a large number of animals and plant species. Habitat types at the AMSE and Parcel 279.01 are somewhat limited due to their small size and location in developed parts of Oak Ridge. Parcel G is larger and has a much richer assemblage of habitats.

Terrestrial habitat at the AMSE consists of mowed lawns with scattered trees in a park-like setting that surrounds the museum building and parking lot. Terrestrial habitat at Parcel 279.01 consists of a mixture of grasses and common lawn weeds that are periodically mowed. A small grove of trees occupies the northern corner of the site. Terrestrial habitat types at Parcel G consist primarily of fields and pastures, scrub thickets, and mixed hardwood-redcedar woodlands. Fields and pastures are open areas dominated by grasses such as broomsedge (*Andropogon virginicus*), fescue (*Festuca* spp.), blue grass (*Poa* spp.), and orchard grass (*Dactylis glomerata*) and common lawn and field weeds. Fields and pastures are actively maintained in their open state by periodic mowing.

Scrub thickets occur in old fields and pastures that have not been mowed for a decade or more. After mowing ceased, these areas were invaded by woody shrubs and small trees, which form dense thickets. Dominant shrubby species are autumn-olive (*Elaeagnus umbellata*), Tatarian bush honeysuckle (*Lonicera tatarica*), and multiflora rose (*Rosa multiflora*).

Upland mixed hardwood-redcedar woods occur in old fields and animal enclosures that have been abandoned and not mowed for 20 years or more. These forests are found in mesic to dry upland areas dominated by black locust (*Robinia pseudoacacia*), sassafras (*Sassafras albidum*), black cherry (*Prunus serotina*), persimmon (*Diospyros virginiana*), and eastern redcedar (*Juniperus virginiana*).

3.6.2 Terrestrial Animals

The available habitat at the AMSE, Parcel 279.01, and Parcel G supports a moderately diverse group of animals. More data are available for Parcel G because it was part of the South Campus Facility RI/FS (DOE 1995).

Animal species at AMSE are somewhat limited by the small amount of habitat available at the site. Although no specific species lists for AMSE are available, wildlife species that would be expected to occur at AMSE are those species typically found in urban settings. This would include mammals such as the gray squirrel (*Sciurus caroliniensis*), chipmunk (*Tamias striatus*), cottontail rabbit (*Sylvilagus floridanus*), striped skunk (*Mephitis mephitis*), groundhog (*Marmota monax*), and gray fox (*Urocyon cinereoargenteus*). Birds commonly found in urban areas of Oak Ridge are the northern cardinal (*Cardinalis cardinalis*), robin (*Turdus migratorius*), eastern bluebird (*Sialia sialis*), tufted titmouse (*Baeolophus bicolor*), black-capped-chickadee (*Poecile carolinensis*), song sparrow (*Melospiza melodia*), northern mockingbird (*Mimus polyglottos*), common grackle (*Quiscalus quiscala*), starling (*Sturnus vulgaris*), American crow (*Corvus brachyrhynchos*), house finch (*Carpodacus mexicanus*), house sparrow (*Passer domesticus*), rock dove (*Columba livia*), mourning dove (*Zenaida macroura*), Canada goose (*Branta canadensis*), northern flicker (*Colaptes auratus*), red-bellied woodpecker (*Melanerpes carolinus*), downy woodpecker (*Picoides pubescens*), blue jay (*Cyanocitta cristata*), and eastern towhee (*Pipilo erythrophthalmus*).

Habitat at Parcel 279.01 is similar, in many ways, to that found at the AMSE. Therefore, one could expect to see the same types of animals at Parcel 279.01 that would be expected to occur at the AMSE.

Parcel G covers a much larger area and has more habitat types than are available at the AMSE or at Parcel 279.01. Animals that may inhabit Parcel G include small mammals such as the white-footed mouse (*Peromyscus leucopus*), chipmunk, gray squirrel, cottontail rabbit, golden mouse (*Ochrotomys nuttalli*), and short-tail shrew (*Blarina brevicauda*), as well as the red fox (*Vulpes vulpes*), gray fox, striped skunk, groundhog, coyote (*Canis latrans*), white-tailed deer (*Odocoileus virginianus*), cotton rat (*Sigmodon hispidus*), eastern harvest mouse (*Reithrodontomys humulis*), and beaver (*Castro canadensis*).

Parcel G also provides habitat that can support a variety of bird species including most of the species listed above for the AMSE and Parcel 279.01. Other species that would likely be found at Parcel G are the Kentucky warbler (*Oporornis formosus*), ovenbird (*Seiurus aurocapillus*), brown thrasher (*Toxostoma rufum*), rufous-sided towhee (*Pipilo erythrophthalmus*), Carolina wren (*Thryothorus ludovicianus*), eastern meadowlark (*Sturnella magna*), belted kingfisher (*Ceryle alcyon*), great blue heron (*Ardea herodias*), indigo bunting (*Passerina cyanea*), turkey (*Meleagris gallopavo*), quail (*Colinus virginianus*), woodcock (*Philohela minor*), and Canada goose. Birds of prey that may nest or hunt at Parcel G are the red-tailed hawk (*Buteo jamaicensis*), broad-winged hawk (*Buteo platypterus*), great horned owl (*Bubo virginianus*), screech owl (*Otus asio*), barred owl (*Strix varia*), osprey (*Pandion haliaetus*), and Cooper's hawk (A*ccipiter cooperii*).

Reptiles and amphibians that may inhabit Parcel G include the chorus frog (*Pseudacris triseriata*), tree frog (*Hyla versicolor*), spring peeper (*Hyla crucifer*), green frog (*Rana clamitans*), toad (*Bufo* spp.), various salamanders (*Eurycea* spp. and *Desmognathus* spp.), eastern box turtle (*Terrapene carolina*), northern copperhead (*Agkistrodon contortix*), black rat snake (*Elaphe obsolete*), and fence lizard (*Sceloporus undulates*).

3.6.3 Aquatic Resources

Information on the aquatic resources in Scarboro Creek, in the vicinity of Parcel G, is limited. However, Table 3.1 presents the results of fish sampling that has been conducted by ORNL during spring 1999–2001.

Table 3.1. Fish species, density (individuals/m^2), and biomass (g fish/m^2) at Scarboro Creek for spring 1999–2001

Species	2001	2000	1999
Largescale stoneroller (*Campostoma oligolepis*)	0.35		0.16
	(3.70)		(0.92)
Spotfin shiner (*Cyprinella spiloptera*)			0.02
			(0.07)
Blacknose dace (*Rhinichthys atratulus*)	0.04	0.07	0.01
	(0.19)	(0.78)	(0.07)
Yellow bullhead (*Ameiurus natalis*)			0.03
			(0.74)
Banded sculpin (*Cottus carolinae*)	0.28	0.74	1.01
	(2.01)	(3.58)	(4.74)
Green sunfish (*Lepomis cyanellus*)	0.01	0.09	0.05
	(0.16)	(1.25)	(0.74)
Log perch (*Percina caprodes*)			0.04
			(0.48)
Species richness	4	3	7
Total density	0.68	0.90	1.33
Total biomass	6.06	5.61	7.91

Source: Personal communication from Michael Ryan, Environmental Sciences Division, Oak Ridge National Laboratory, to Jimmy Groton, Science Applications International Corporation, December 5, 2001.

Although two of the former swine waste ponds located on Parcel G contain water throughout most of the year, aquatic resources are generally limited. Typical biota is likely to include frogs, turtles, crayfish, and aquatic insects such as dragonflies, damselflies, and aquatic beetles. Due to temperature extremes, high biological oxygen demand, and the isolated nature of the ponds it is unlikely that the ponds contain any fish.

3.6.4 Threatened and Endangered Species

Table 3.2 lists animal species known to be present on the ORR (excluding the Clinch River bordering the reservation) along with their status. Other listed species may be present, although they have not been observed recently. These include several species of mollusks, amphibians (such as the hellbender), birds (such as Bachman's sparrow), and mammals (such as the smoky shrew). The federally threatened bald eagle is increasingly seen in the winter and may well begin nesting on the ORR within a few years (DOE 2006). Bald eagles have not been sighted in the vicinity of the AMSE, Parcel 279.01, or Parcel G. Similarly, several state-listed bird species, such as the anhinga, olive-sided flycatcher, double-crested cormorant, and little blue heron are currently uncommon migrants or visitors to the ORR; however, the double-crested cormorant and little blue heron are increasing or will probably increase in numbers. Others, such as the cerulean warbler, northern harrier, great egret, and yellow-bellied sapsucker, are migrants or winter residents that do not nest on the reservation. The golden-winged warbler (*Vermivora chrysoptera*), listed by the state as in need of management, has been sighted on the ORR. The spotfin chub (*Cyprinella monnacha*) has been sighted and collected in the city of Oak Ridge and is possibly present on the ORR (DOE 2006). None of these species have been reported in the vicinity of the AMSE, Parcel 279.01, or Parcel G.

Table 3.2. Animal species of concern reported from the ORR[a]

Species		Legal status[b]	
		Federal	State
	Fish		
Phoxinus tennesseenis	Tennessee dace		D
	Amphibians and reptiles		
Hemidactylium scutatum	Four-toed salamander		D
	Birds		
Accipiter striatus	Sharp-shinned hawk		D
Anhinga anhinga	Anhinga		D
Ardea alba	Great egret		D
Circus cyaneus	Northern harrier		D
Contopus cooperi	Olive-sided flycatcher		D
Dendroica cerula	Cerulean warbler		D
Egretta caerulea	Little blue heron		D
Egretta thula	Snowy egret		D
Falco peregrinus[c]	Peregrine falcon		E
Haliaeetus leucocephalus[d]	Bald eagle	T	D
Lanius ludovicianus	Loggerhead shrike		D
Pooecetes gramineus	Vesper sparrow		D
Sphyrapicus varius	Yellow-bellied sapsucker		D
Tyto alba	Barn owl		D
Vermivora chrysoptera	Golden-winged warbler		D
	Mammals		
Myotis grisecens	Gray bat	E	E
Sorex longirostris	Southeastern shrew		D

[a]Land and surface waters of the ORR exclusive of the Clinch River, which borders the ORR.
[b]E = endangered, T = threatened, D = deemed in need of management.
[c]The peregrine falcon was federally delisted on August 25, 1999.
[d]The bald eagle was proposed for federal delisting on July 6, 1999.

There are currently 22 plant species listed by the state of Tennessee as threatened or endangered that have been observed in the last 10 years on the ORR; among them are the pink lady's slipper and Canada lily (Table 3.3). Two species occurring on the ORR, Carey's saxifrage and the purple fringeless orchid, have been removed from the state list as of November 1999 (DOE 2006).

The AMSE and 279.01 parcels are routinely mowed and maintained and are, thereby, unlikely to provide suitable habitat for any rare plants. In June 1993, Energy Systems conducted a rare plant survey at the South Campus Facility that includes Parcel G. No federal- or state-listed plant species were encountered during that survey.

DOE contacted the U.S. Fish and Wildlife Service (FWS) to inform them about the proposed action and to obtain the latest information on federally listed threatened and endangered species in the area of each of the parcels. According to FWS records, the gray bat (*Myotis grisescens*), and Indiana bat (*Myotis sodalis*), both federally listed endangered species, may occur on or near Parcel G. The FWS also recommended that a biological assessment be conducted to assess potential impacts and determine if the proposed action may affect the two bat species. They also recommended that permanent protection measures (e.g., conservation easements) for Scarboro Creek and associated wetlands on Parcel G be incorporated into any legal instrument conveying the property to the city of Oak Ridge. Additional information on the gray bat and Indiana bat is presented in the biological assessment prepared for the proposed action (Appendix D).

Table 3.3. Vascular plant species reported from the ORR listed by state or federal agencies

Species	Common name	Habitat on ORR	Status code[a]
Aureolaria patula	Spreading false-foxglove	River bluff	T
Carex gravida	Heavy sedge	Varied	S
Carex oxylepis var. pubescens[b]	Hairy sharp-scaled sedge	Shaded wetlands	S
Cimicifuga rubifolia	Appalachian bugbane	River slope	T
Cypripedium acaule	Pink lady's-slipper	Dry to rich woods	E-CE
Delphinium exaltatum	Tall larkspur	Barrens and woods	E
Diervilla lonicera	Northern bush-honeysuckle	River bluff	T
Draba ramosissima	Branching whitlow-grass	Limestone cliff	S
Elodea nuttallii	Nuttall's waterweed	Pond, embayment	S
Fothergilla major	Mountain witch-alder	Woods	T
Hydrastis canadensis	Golden seal	Rich woods	S-CE
Juglans cinerea	Butternut	Slope near stream	T
Juncus brachycephalus	Small-head rush	Open wetland	S
Lilium canadense	Canada lily	Moist woods	T
Lilium michiganense[c]	Michigan lily	Moist woods	T
Liparis loeselii	Fen orchid	Forested wetland	E
Panax quinquifolius	Ginseng	Dry, open woods	S-CE
Platanthera flava var. herbiola	Tuberculed rein-orchid	Wetland	T
Populus grandidentata[d]	Large-tooth aspen	Dry, woodlands	S
Ruellia purshiana	Push's wild-petunia	Boggy wetland	S
Scirpus fluviatilis	River bulrush	Rocky river bluffs	S
Spiranthes lucida	Shining ladies-tresses	Rocky woods	T
Thuja occidentalis	Northern white cedar	Rocky river bluffs	S
Viola tripartita var. tripartita	Three-parted violet	Rocky woods	S

[a]Status codes:
E = Endangered in Tennessee.
T = Threatened in Tennessee.
S = Special concern in Tennessee.
CE = Status due to commercial exploitation.
[b]*Carex oxylepis var. pubescens* has not been located during recent surveys.
[c]*Lilium michiganense* is believed to have been extirpated from the ORR by the impoundment at Melton Hill.
[d]*Populus grandidentata* was reported in two ORR locations. One of the reports was confirmed, but the tree died during the year.

3.7 CULTURAL RESOURCES

Cultural resources are defined as any prehistoric or historic district, site, building, structure, or object considered important to a culture, subculture, or community for scientific, traditional, religious, or any other reason. When these resources meet any one of the National Register Criteria for Evaluation (NRCE) (36 *CFR* Part 60.4), they may be termed historic properties and, thereby, are potentially eligible for inclusion on the National Register of Historic Places (NRHP).

No intact cultural resources are known to be present or thought to exist on the AMSE property and Parcel 279.01. This is based on the highly disturbed nature of the properties and their location within the city of Oak Ridge. Also, the AMSE itself does not meet the NRCE and, thus, is not yet considered to be an historic property. The original location of the museum was the building at 55 Jefferson Avenue. Although the current AMSE facility does not meet the NRCE, historic and scientific artifacts and archives of the ORR contained within the museum would remain in the ownership of the Federal Government.

The DOE-ORO, Tennessee State Historic Preservation Office (TN-SHPO), and the Advisory Council on Historic Preservation ratified a Memorandum of Agreement (MOA) in 2003 regarding the site

interpretation of the East Tennessee Technology Park (ETTP). Two parts of the MOA have an impact on the AMSE. The first is that although DOE currently owns AMSE, in the event of a transfer of ownership, the subsequent owner would be offered the opportunity to become a signatory to the MOA. They would also have first right of refusal for the curation of historic artifacts recovered from the ETTP. The second item in the MOA that affects AMSE is that the museum has the lead role in overseeing DOE ORR oral history interviews, and they will serve as the central point of contact for conducting these interviews and may serve as the potential repository for tapes and transcripts of ORR oral histories.

Based on previous disturbances from activities associated with the ORISE Scarboro Operations Site and past farming activities, it was thought that Parcel G did not contain any intact cultural resources. However, because this area had not been previously surveyed and some potential did exist for cultural resources to be present, DOE conducted an archaeological survey of the area. Based on the survey findings and research at the Tennessee Division of Archaeology and the Tennessee Historical Commission, DOE has determined that no historic properties would be affected by the proposed action. It was also determined that the proposed action would have no impact on any site or property included in the NRHP pursuant to 36 *CFR* 60.4 and no further archaeological investigations were recommended. DOE notified the TN-SHPO of the proposed undertaking and its determination of effect to comply with Sect. 106 of the National Historic Preservation Act of 1966 (NHPA).

3.8 SOCIOECONOMICS

The region of influence (ROI) for this analysis includes Anderson and Roane counties. The region includes the cities of Clinton, Oak Ridge, Harriman, and Kingston. Because the parcels of land involved are small and are located within the city of Oak Ridge, it is assumed that the primary impacts will affect the city and nearby populations. To generate the most conservative estimates of potential impact, the ROI includes only these two counties. Actual impacts may be distributed over a wider area, because Anderson County is also part of the Metropolitan Statistical Area for the much larger city of Knoxville and draws commuters from at least 12 counties in eastern Tennessee (Juan 2000).

3.8.1 Demographic and Economic Characteristics

Table 3.4 summarizes population, per capita income, and wage and salary employment from 1999 to 2004. Population has increased slightly over the 5-year period, with Roane County accounting for most of the growth. Employment for the region declined from 74,997 in 1999 to 72,299 in 2004. Per capita income grew from $22,778 to $27,518 over the same period (Bureau of Economic Analysis 2006).

Table 3.4. Demographic and economic characteristics: Anderson and Roane counties

County	1999	2000	2001	2002	2003	2004	Annual growth 1999–2004 (%)
			Anderson				
Population	71,454	71,293	71,444	71,664	71,909	72,045	0.16
Per capita income ($)	24,001	25,035	25,988	26,798	27,664	28,588	3.56
Total employment	50,387	50,961	50,975	50,601	51,907	51,693	0.51
			Roane				
Population	51,736	51,954	51,976	52,225	52,487	52,781	0.40
Per capita income ($)	21,091	22,339	22,638	23,936	24,949	26,051	4.31
Total employment	24,610	23,798	20,953	20,975	20,847	20,606	-3.49
			Region Totals				
Population	123,190	123,247	123,420	123,889	124,396	124,826	0.26
Per capita income ($)	22,778	23,903	24,583	25,587	26,512	27,518	3.85
Total employment	74,997	74,759	71,928	71,576	72,754	72,299	-0.73

***Source*:** Bureau of Economic Analysis 2006.

3.8.1.1 Distribution of minority and economically disadvantaged populations for environmental justice concerns

Table 3.5 shows the distribution of minority populations in the city of Oak Ridge. For the purposes of this analysis, a minority population consists of any census tract in which minority representation is greater than the national average of 30.7%. Minorities include individuals classified by the U.S. Bureau of the Census as Black or African-American, American Indian and Alaska Native, Asian, Native Hawaiian and Other Pacific Islander, and Hispanic or Latino, and those classified under "Two or more races." This provides a conservative estimate consistent with recent OMB guidance (OMB 2000). Hispanics may be of any race and are excluded from the totals for individual races to avoid double counting.

Table 3.5. Race or ethnic distribution for Oak Ridge City population: 2000

Race or ethnic group	Number	Percent
Not Hispanic or Latino		
White	23,517	85.9
Black or African American	2,229	8.1
American Indian or Alaska Native	81	0.3
Asian	568	2.1
Native Hawaiian and Other Pacific Islander	6	0.0
Some other race	30	0.1
Two or more races	427	1.6
Hispanic or Latino[a]	529	1.9
Total	27,387	100.0

[a]May be of any race. Those classified as Hispanic or Latino are excluded from other categories to avoid double counting.

Source: Bureau of the Census 2000.

As of the 2000 Census, minorities represented 14.0% of the total Oak Ridge population, compared to the national average of 30.7%. Only the Scarboro Community in tract 201 included a minority population greater than the national average. African-Americans comprised 29.6% of the population in tract 201, and other minorities (including two or more races) comprised 10.5%. For all other tracts in the area, minorities comprised 20% or less of the population. For comparison, minorities represented 21.0% of the

population in Tennessee (Bureau of the Census 2000). No federally recognized Native American groups live within 80 km (50 miles) of the proposed site.

According to the 2000 Census, 12.4% of the U.S. population and 13.5% of the Tennessee population had incomes below the poverty level in 1999 (Bureau of the Census 2000). In this analysis, a low-income population consists of any census tract in which the proportion of individuals below the poverty level exceeds the national average. Within the ROI, 13.1% of the population in Anderson County had incomes below the poverty level in 1999. The proportion in Roane County was 13.9%. Within Oak Ridge, low-income populations were located in census tracts 201 (15.8% below poverty level) and 205 (27.9%). Tract 201 roughly corresponds to the Scarboro community, and tract 205 includes the area between Oak Ridge Turnpike and West Outer Drive, bounded on the west by Louisiana Avenue and on the east by Highland Avenue and Robertsville Road. In other Oak Ridge census tracts, the percentages ranged from 12.1% in tract 204 to 1.9% in tract 301 (Bureau of the Census 2000).

3.8.2 Fiscal Characteristics

Oak Ridge City general fund revenues and expenditures for FY 2005, projections for 2006, and budgeted revenues and expenditures for FY 2007 are presented in Table 3.6. The general fund supports the ongoing operations of local governments as well as community services, such as police protection and parks and recreation. The largest revenue sources have traditionally been local taxes (which include taxes on property, real estate, hotel/motel receipts, and sales) and intergovernmental transfers from the federal or state government. Nearly 95% of the 2005 general fund revenue came from these combined sources (City of Oak Ridge 2006). For FY 2006, the property tax rate was $2.55 per $100 of assessed value. The assessment rate is 40% for industrial and commercial property and 25% for residential property (City of Oak Ridge 2006). The city also receives a payment-in-lieu-of-tax (PILT) for ORR acreage that falls within the city limits. The payment is based on its value as farmland, and assessed at the farmland rate of 25% (City of Oak Ridge 2005). In 2006, the payment was based on a value of $6,450 per acre (Hunter 2006).

Table 3.6. City of Oak Ridge revenues and expenditures, FY 2005 and budgeted FY 2007 ($)

	2005 Actual	2006 Projected	2007 Budgeted
Revenues			
Taxes	19,915,688	20,076,565	20,933,810
Licenses and permits	340,802	389,500	220,000
Intergovernmental revenues	10,574,555	11,482,459	11,771,300
Charges for services	388,577	336,500	346,000
Fines and forfeitures	238,503	265,000	289,000
Other revenues	527,689	553,000	558,500
Total revenues	31,985,814	33,103,024	34,118,610
Expenditures and other financing			
Expenditures	(14,737,841)	(17,690,181)	(16,326,766)
Other financing uses[a]	(17,503,411)	(17,931,145)	(18,997,273)
Total expenditures and other financing	(32,241,252)	(35,621,326)	(35,324,039)

[a]Includes items such as capital projects fund, solid waste fund, economic diversification fund, debt service, and schools.
Source: City of Oak Ridge 2006.
FY = Fiscal year.

3.9 INFRASTRUCTURE AND SUPPORT SERVICES

3.9.1 Transportation

The AMSE and Parcel 279.01 are well serviced by existing roads within the city of Oak Ridge. The main entrance to the AMSE is from South Tulane Avenue, but it can also be accessed from Badger Avenue. Parcel 279.01 is located on the corner of Laboratory Road and Administration Road.

Road access to Parcel G is more limited. The property is currently accessed from Pumphouse Road using a gravel service road that is part of the ORISE Scarboro Operations Site. Limited access also exists from Bethel Valley Road. This access is through a gate located on Bethel Valley Road just east of the intersection of Pumphouse and Scarboro Roads. A gravel DOE access road begins at the gate and runs along the northern border of Parcel G parallel with the Bethel Valley Road right-of-way (ROW) and fence. This DOE access road also connects with the ORISE Scarboro Operations Site gravel service road. Additional limited access is located off of Pumphouse Road along a mowed ROW that follows the fence for the Scarboro Cemetery. A cable gate currently controls access to this ROW.

3.9.2 Utilities

The AMSE obtains electricity, water, and sewer from the city of Oak Ridge. AMSE's main building has an all-electric, damper-controlled heating, ventilating, and air-conditioning system that is more than 25 years old. These same services are also available for Parcel G and Parcel 279.01.

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4. ENVIRONMENTAL CONSEQUENCES

4.1 LAND AND FACILITY USE

4.1.1 Proposed Action

Under the proposed action, the present land use of each parcel would change over time as development occurs. Buildings and other structures would be constructed to support various commercial and light industrial uses. The visual character of portions of the parcels would change from a more natural to a more man-made looking environment as development progressed. Development would still have to be compatible with local zoning requirements and would be subject to all local, state, and federal environmental laws and regulations.

For bounding purposes, it is assumed that the large, open area between Tulane Place and South Illinois Avenue on the AMSE property would be developed for a mix of commercial uses. No major changes are expected for the AMSE facility and parking area. The open area in back of the museum could be developed for various commercial uses such as expansion of the city's municipal complex, additions to the museum facility, or professional offices. The area could also remain as an open space so that it could continue to be used for various outdoor events.

Because of the small size of Parcel 279.01, it is assumed for purposes of analysis that development on this parcel would be for a small retail business or office building. This parcel could also be used by the adjoining office supply business for expansion.

It is assumed that Parcel G would be developed for light industrial use or a mix of commercial and industrial use. Constraints on the property, such as Scarboro Creek and access, may limit the actual uses. For bounding purposes it is assumed that an approximately 50,000- to 100,000-ft^2 building would be built along with supporting infrastructure and utilities for a small processing or manufacturing business. However, potential development on Parcel G could also be a small office park.

4.1.2 No Action

Under the no action alternative, current land use at the AMSE would continue until sometime in the future when, due to the lack of continued funding, the museum could be forced to limit hours of operation or close. Parcel G and Parcel 279.01 would remain DOE property and their current land use would remain unchanged until their future disposition could be decided (see Sect. 2.2).

4.2 AIR QUALITY

4.2.1 Proposed Action

Emissions from vehicle and equipment exhaust, and fugitive dust from vehicle traffic and disturbance of soils resulting from development activities on any of the parcels, are not expected to adversely affect local air quality. These emissions would include carbon monoxide, nitrogen dioxide, sulfur dioxide, PM_{10} (inhalable particulate matter with particles less than 10 μm in diameter), and hydrocarbons. Emissions of particulate matter would consist primarily of airborne soil. Emissions from site preparation and construction would be short-term, sporadic, and localized (except for emissions associated with the personal vehicles of construction workers and vehicles transporting construction materials and equipment). Dispersion would

decrease concentrations of pollutants in the ambient air as distance from the construction site increased. Increments of pollutants due to workers' vehicles and construction vehicles and equipment would not be expected to cause any exceedance of primary or secondary NAAQS.

Not all of the area available for construction would be under construction at any one time. Rather, earthwork would likely be undertaken in increments, with the first phase being excavation for utility installation, road construction and upgrading, and grading/contouring. Increases in PM_{10} concentrations due to fugitive dust from excavation and earthwork would probably be noticeable at each site and in the immediate vicinity, and ambient concentrations of particulate matter could rise in the short-term. However, control measures for lowering fugitive dust emissions (i.e., covers and water or chemical dust suppressants) would minimize these emissions.

Use of newly developed areas within each parcel could result in minor increases of air pollutant emissions primarily from the combustion of natural gas and diesel fuel. However, the types of commercial/industrial uses likely to be developed would not result in the kind of major air emissions produced by heavy industries. Air emissions that might be generated by a small manufacturing or processing facility located on Parcel G would be expected to be like those generated from similar operations located in the Bethel Valley Industrial Park located nearby. These emissions would not exceed the NAAQS, have an adverse impact on air quality, or be detrimental to human health. If applicable, facilities would be required to obtain the appropriate permits, and operating emissions would be limited. Sulfur dioxide emissions from sources in and around each parcel are expected to be low, and the types of development likely to occur are not expected to cause any exceedance of allowable PSD increments.

4.2.2 No Action

Under the no action alternative, air pollutants would continue to be emitted at current rates in the vicinity of each parcel, with the largest source being vehicle traffic. Vehicle emissions at the baseline level would continue to be a source of ozone in the surrounding area.

4.3 GEOLOGY AND SOILS

4.3.1 Proposed Action

Site clearing, grading, and contouring could alter the topography of the land parcels that could be developed under the proposed action, but the geologic formations underlying those sites should not be affected by proposed development. Construction would disturb soils, and some topsoil might be removed in the process. Topsoil would be replaced after buildings and roads were completed, and unpaved areas would be landscaped.

The FPPA requires federal agencies to consider the effects of any activity that would convert farmland. The Natural Resource Conservation Service identifies four soil types that occur at AMSE and Parcel G as prime farmland (one at AMSE and three at Parcel G).

Normally, a Farmland Conversion Impact Rating would be completed to rate the relative impact of the proposed action. The rating form is based on a Land Evaluation and Site Assessment (LESA) system, which measures the quality of farmland based on soil quality and other factors that would affect a farm's viability. No LESA was completed for the proposed action because the definition of prime farmland specifically excludes from consideration lands committed to urban development. All three parcels under consideration lie within the city of Oak Ridge and have been zoned to include nonagricultural uses

(i.e., commercial, industrial, or residential use). Therefore, all three parcels are exempt from consideration as prime farmland.

4.3.2 No Action

No impact to the local geology and soils of the Oak Ridge area is expected to occur under the no action alternative. Both the AMSE and Parcel 279.01 property are free from contamination. Remediation activities at the ORISE Scarboro Operations Site were completed several years ago, and the area has been in post-remediation monitoring since that time. It is unlikely that other environmental restoration actions would occur near Parcel G. The possibility exists for other environmental restoration actions to occur at other areas in the Scarboro Creek watershed. However, the extent of these activities has not been determined. Environmental restoration activities at ORR are evaluated on a case-by-case basis and conducted in accordance with the CERCLA review and documentation process (i.e., RI/FS).

4.4 WATER RESOURCES

4.4.1 Proposed Action

The greatest potential impact to surface waters would originate from soil erosion, runoff, and sedimentation (during construction); a fuel, hazardous material, or waste spill; or a sewer line leak (during construction and operation of facilities). Although two of the properties (AMSE and Parcel 279.01) do not have any surface water features, all are connected to surface water resources by local storm sewers or wet-weather conveyances. The AMSE, by storm drains to East Fork Poplar Creek and Parcel 279.01, is connected by wet-weather conveyances to Ernie's Creek. Parcel G has Scarboro Creek, an unnamed creek, and three small ponds. Any construction activities that would directly occur in these surface waters may require that the appropriate permits be obtained prior to any disturbance. Uncontrolled soil erosion would increase sedimentation and turbidity in the receiving surface waters.

Spills of fuel, hazardous material, or waste, or a sewer line leak, could have adverse impacts on surface waters if not controlled or contained. Impacts would primarily be a change to the water quality (pH, dissolved oxygen, conductivity, etc.) that could affect vegetation and aquatic biota. Soil erosion impacts would be mitigated through the use of best management practices (BMPs) (i.e., silt fences, straw bales, and temporary sediment detention basins). The potential for spills would be mitigated through the adherence to proper safety procedures and spill prevention plans. In the event of a spill from an accident, spill response measures (e.g., booms, berms, sorbents, neutralizers, secondary containment, and mechanical removal equipment) would minimize potential adverse impacts. Changes in surface topography during construction could lead to the alteration of local hydrology.

Paving large areas for roads and parking lots could substantially reduce water infiltration, potentially affecting on-site surface water features. Construction of new facilities could require state storm water runoff permits. Wastewater from industrial and commercial operations would be pretreated (if required) and discharged to the city of Oak Ridge sewage treatment plant according to discharge permit restrictions. Impacts from accidental spills would be addressed by individual operators through the use of safety procedures, spill prevention plans, and spill response plans. Surface water protection measures are already required by the city of Oak Ridge and TDEC and would be continued for the proposed action.

Impacts to groundwater quality could also occur as a result of a fuel or waste spill, or a sewer line leak and subsequent migration of contaminants through the soil profile to the groundwater table. A spill directly into the surface water bodies in the vicinity also could affect the groundwater quality because of the connection between surface water and groundwater resources. However, it is expected that the

quantities of materials with the potential to affect surface or groundwater (e.g., fuel) would be transported or stored at the construction sites in the proper containers and according to all applicable regulations. The use of local, state, or federal permits, safety procedures, spill prevention plans, and spill response plans in accordance with state and federal laws would minimize the severity of potential impacts from accidents. Although there are few groundwater users in Oak Ridge, institutional controls (i.e., deed restrictions) would be in place to ensure that there would be no use of groundwater resources. Use classifications for groundwater are prescribed by the Tennessee Water Control Act, T.C.A. 69-3-105(a)(2).

4.4.2 No Action

Under the no action alternative, surface and groundwater monitoring and appropriate environmental restoration measures would be continued, if needed, in the vicinity of Parcel G. Appropriate mitigation measures are considered and implemented for these activities under the CERCLA review and documentation process. Impacts to surface water or groundwater could also occur as the result of a spill or leak from ongoing operations. Surface and groundwater protection measures, such as spill prevention and spill response plans, are already in place for ongoing operations.

4.5 FLOODPLAINS AND WETLANDS

4.5.1 Proposed Action

Neither the AMSE nor Parcel 279.01 lies within floodplains or flood hazard zones; however, portions of the Scarboro Creek floodplain are present on Parcel G. For Parcel G to be included in the federal Flood Insurance Program, detailed hydrologic studies would need to be conducted to set flood hazard zones.

DOE prepared a wetlands assessment for Parcel G to meet the "Compliance with Floodplain/ Wetlands Environmental Review Requirements" (10 *CFR* 1022). DOE provided the opportunity for public review through publication of a Public Notice in the *Federal Register* [*Federal Register*: March 21, 2002 (Volume 67, Number 55)]. The assessment is also included in Appendix C.

The proposed conveyance of Parcel G would not inherently cause adverse impacts that affect the survival, quality, and natural and beneficial values of wetlands on the property because the proposed conveyance is an administrative action. Rather, the potential for, and degree of, adverse impacts would depend upon how the property was developed. Adverse impacts would include any activity that eliminates or reduces the ability of wetlands to perform their normal biological, chemical, hydrological, and physical functions. Some or all of the wetlands could potentially experience direct impacts by development in the wetlands themselves or indirect impacts from other activities associated with activities in nearby areas. Wetlands downstream from Parcel G could also be affected by any construction activities on the parcel.

Proposals for development would be subject to regulation by the USACE, TDEC, and possibly the Tennessee Valley Authority (TVA). Proposed projects would be required to follow normal sequencing during regulatory review to avoid and minimize adverse impacts to wetlands at Parcel G. Compensatory mitigation should be used as a last resort and would be subject to negotiation between USACE, TDEC, and possibly DOE, and TVA.

4.5.2 No Action

No additional impacts to floodplains or wetlands are expected to occur under the no action alternative.

4.6 ECOLOGICAL RESOURCES

4.6.1 Proposed Action

Development in the land parcels proposed for conveyance would have direct impacts on terrestrial and aquatic habitats, plants, and animals present at these sites. Potential adverse impacts to aquatic resources could also occur unless they are avoided and mitigation measures are implemented. Conveyance of the AMSE and Parcel 279.01 would have negligible adverse impacts because these sites are in intensively developed portions of Oak Ridge with marginal available habitat and limited biota located at those sites. Adverse impacts would be most pronounced at Parcel G, which has much more natural habitat and more diverse biota.

Proposed construction and development of Parcel G would have an impact on terrestrial habitats at Parcel G. Habitat loss would include areas of managed grassland, mixed hardwood-redcedar riparian forest, and scrub thickets.

The impact of construction would include direct mortality or injury to some biota and elimination or degradation of the impacted habitat. The most likely impact would be the elimination of one or more fragmented terrestrial areas or narrowing of areas already squeezed by activities at the site. The elimination or narrowing of terrestrial communities would have a minimal impact on existing plant or animal species. The animal and plant species that occur on the three parcels are common in the Oak Ridge area and some of the larger more mobile animals could relocate to adjacent habitat of the same structure. Minimizing the amount of earth-moving activities would reduce the effects on plants and terrestrial habitats. Blending construction with the natural setting of the area would result in fewer impacts and mitigation measures.

If construction activities could not avoid direct impacts to aquatic resources, appropriate permits would be obtained prior to any disturbance. These unavoidable direct impacts would be minor and temporary because the resources that would be impacted are limited, not considered unique, and do not contain sensitive species. Indirect impacts to aquatic resources could result from an increase in flow caused by an increase in the amount of storm water runoff. Increased flow could affect the plant species, riparian habitat, and the fish and macroinvertebrate species found in the impacted creeks and drainage ditches. Larger flow volumes could scour banks and substrates of the waterways eroding plants, soil, and sediment. A decrease or change in stream substrate could lead to a reduction in the number of fish and macroinvertebrate species.

Avoiding the resource, minimizing the impact, or mitigating the impact if avoidance or minimization is not possible would address impacts to ecological resources. Impacts from construction would be considered short-term and minimal, and would be mitigated through the establishment of stream buffer areas and the use of BMPs (e.g., erosion controls). Natural habitat around the areas of proposed development would be left as a buffer zone between the developed areas and other undeveloped portions of the site. Areas disturbed during construction, but not needed for facilities, would be revegetated after construction is completed. The use of native species for revegetation would have a positive impact as it could enhance biotic and ecosystem diversity in the area.

Storm detention basins used to capture and treat storm water runoff would be designed and constructed to handle the additional runoff associated with any new developments. An increase in the capacity of existing storm water retention ponds and outfall structures (that control release or flow) could also minimize impacts to creeks and drainage ditches. Storm water runoff would be discharged to surface water only in accordance with limitations established under state or other regulatory permits. It may be possible that the former swine waste ponds located on Parcel G (see Sect. 3.4.2) could somehow be incorporated into the design of storm detention basins that may be required for development of the property.

Wastewater discharges would be to the existing sewage treatment plant in Oak Ridge according to discharge permit restrictions. If permit limits were consistently met, degradation of aquatic habitat would not be expected.

The potential for a spill or leak also exists from the normal operation of new and existing facilities. Impacts to biota could include direct mortality, injury, and degradation of the impacted habitat. Because of the limited habitat and biota at the site, these impacts would probably be minor to moderate, and the affected resources would be expected to recover within a few months to a year, depending on the severity of the spill or leak.

No federal- or state-listed threatened and endangered plants or animals are known to exist at any of the three parcels under evaluation. However, the FWS indicated (see Appendix A) that the federally listed endangered gray bat and Indiana bat may occur on or near Parcel G. DOE has completed a biological assessment to assess potential impacts and to determine if the proposed action may affect these species.

Based on the information presented in the biological assessment (see Appendix D), DOE concluded that the proposed action is not likely to adversely affect either of the listed species. Neither species appears likely to be present on Parcel G, and proposed or designated critical habitats for the species are not present on or near the parcel. Although no caves or other suitable hibernacula or roosting habitat for gray bats are present at Parcel G, caves that could provide potential roosting habitat for the gray bat are present within 4 miles of Parcel G. Although the ultimate use of Parcel G may eventually require the removal of trees, potential summer roosting habitat at the site is at best marginal for Indiana bats. Also, there are adequate numbers of suitable and potentially suitable roost trees available immediately adjacent to Parcel G. Scarboro Creek within Parcel G is not considered to be good foraging habitat for gray or Indiana bats because it is a narrow, small stream with limited riparian habitat. In addition, the Clinch River, Melton Hill Lake, and lower Scarboro Creek, located adjacent to Parcel G, provide additional suitable foraging habitat for both species. The FWS determined that the biological assessment is adequate and concurred with DOE's conclusion of not likely to adversely affect (see Appendix A).

4.6.2 No Action

No additional impacts to terrestrial and aquatic habitats, plants, and animals are expected to occur under the no action alternative. Parcels G and 279.01 would remain DOE property and their current land use would remain unchanged until their future disposition could be decided (see Sect. 2.2).

4.7 CULTURAL RESOURCES

4.7.1 Proposed Action

For the AMSE property and Parcel 279.01, the proposed action would not have any effect on cultural resources because it has been determined that none are likely to be present. Also, the AMSE itself does not meet the NRCE and, thus, is not yet considered to be an historic property. DOE, under the NHPA, would protect historic and scientific artifacts and archives contained within the AMSE facility. Prior to the conveyance of the museum, DOE would conduct an inventory of the items contained within the AMSE facility and make a determination on which items have cultural/historical significance and require protection. DOE would maintain ownership of those items to ensure their continued protection and preservation. DOE would enter into an agreement with the AMSE for the continued curating and display of those items. Based on the results of a Phase I archaeological survey performed on Parcel G, DOE has determined that no archaeological resources or historic properties would be affected by the proposed action. It was also determined that the proposed action would have no impact on any site or property

included in the NRHP pursuant to 36 *CFR* 60.4. The TN-SHPO concurred with DOE's determination that the project as currently proposed would not adversely affect any property eligible for listing in the NRHP (Appendix A).

DOE would include a deed restriction requiring that if an unanticipated discovery of cultural materials (e.g., human remains, pottery, bottles, weapon projectiles, and tools) or sites was made during development activities, all ground-disturbing activities in the vicinity of the discovery would be halted immediately. The DOE-ORO Cultural Resources Management Coordinator would be contacted, and consultation with the TN-SHPO would be initiated and completed prior to any further disturbance of the discovery-site area.

4.7.2 No Action

There would be no impacts on cultural resources under the no action alternative. No cultural resources are believed to be present on the AMSE property or Parcel 279.01. Based on the results of a Phase I archaeological survey performed on Parcel G, DOE has determined that no archaeological resources or historic properties are present.

4.8 SOCIOECONOMICS

4.8.1 Proposed Action

This section assesses the potential socioeconomic impacts of the land conveyance and development. This analysis assumes that development on Parcel G, Parcel 279.01, and the AMSE property would create less than 80 direct jobs. This is consistent with the ratio of estimated jobs per usable acre developed for Parcel ED-1 (Young 1999) and represents an upper bound for the purpose of analysis.

4.8.1.1 Demographics

Population. Based on the small number of jobs created, no impact on population is anticipated.

Environmental Justice. Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations, requires agencies to identify and address disproportionately high and adverse human health or environmental effects its activities may have on minority and low-income populations. Although current assumptions suggest there would be no high and adverse human health or environmental impacts, the actual circumstances would depend on specific choices made at the time of development. As discussed in Sect. 3.8.1.1 of the census tracts in the city of Oak Ridge, only tract 201 includes a higher proportion of minorities in the population than the national average. Other tracts in the city, and tracts closer to Parcel G, where industrial development could take place, have low proportions of minorities in their populations. In the event that adverse impacts occur, they are likely to have at least as much effect on these closer populations as on the residents of tract 201.

Similarly, some low-income populations are located within the city and near the ORR. However, these populations are scattered among higher income populations. Any adverse impacts that affect the low-income tracts are also likely to affect the higher income populations. Therefore, any adverse health and environmental impacts that may occur are not expected to have a disproportionate effect on low-income and minority populations.

4.8.1.2 Employment and income

As discussed earlier, this analysis assumes that developing the conveyed land would create less than 80 direct full-time-equivalent jobs. This figure represents a negligible increase (0.1%) from the 2004 total employment shown in Table 3.4. As an upper bound, if it is assumed that each of the newly generated direct jobs pays the projected 2006 statewide average annual manufacturing wage of $41,049 (Murray, Cunningham, Hill, and Marshall 2005), the direct impact on ROI income would be an increase of $3.3 million, or less than 0.1% of the 2004 ROI income. Actual income is likely to be less because final development is likely to include both retail and manufacturing industries, and retail jobs typically pay much less than manufacturing jobs.

Potential negative impacts include the loss of 21 jobs and associated income if fundraising efforts are unsuccessful and the Museum is forced to close. This is the same as the potential negative impact under the no action alternative.

4.8.1.3 Fiscal impacts

The main impact of the proposed conveyance is likely to be its effect on city of Oak Ridge finances, and the final impacts would depend on whether the property is conveyed to the city of Oak Ridge or to a private entity, the success of fundraising and development efforts, and whether the city chooses to fund any portion of the Museum's operations. Potential positive impacts include additional tax revenue generated by the acquisition, sale, and/or development of Parcels G and 279.01, and the undeveloped portion of the AMSE property. Potential negative impacts include any additional costs required from the city to maintain and operate the museum and the loss of the DOE in-lieu-of-tax payments on the property. If development or fundraising efforts are unsuccessful, no additional impacts are anticipated on city finances unless the city chooses to contribute toward Museum operations or the property is conveyed to the city. In either case, budget impacts would depend on whether the city chose to fund any shortfalls in operating expenses.

The exact size of these impacts is not yet known, but given the relatively small amount of land involved, the total impact is also likely to be small. Resale of land for development is likely to have a small positive impact on city taxes, despite the loss of the DOE PILT, because the current payment is based on an estimated value of $6,450/acre, and the 25% assessment rate used for farmland. Undeveloped industrial land in Oak Ridge has historically been valued between $17,000 and $65,000/acre, and is assessed for tax purposes at 40% of value; commercial land has been valued higher (ORNL 2002). Assuming that parcels are sold to tax-paying entities, increased real estate taxes for each parcel are expected to outweigh the lost PILT. Successful development would further increase the value of the property and associated real estate taxes. In addition, any retail development would increase sales tax revenue in proportion to the new sales generated.

Maximum potential negative impact would only occur if the properties were conveyed to the city of Oak Ridge, fundraising for the endowment was unsuccessful and, in some future year, the city was required to fund the entire budget of $1.8 million (AMSEF 2006; Fowler 2006). An increase to $1.8 million would increase total city outlays by about 5% over the 2007 budget shown in Table 3.4. While this could have a noticeable impact on city finances and/or tax rates, it is unlikely to result in any changes in population, employment, or income beyond those already discussed in Sects. 4.8.1.1 and 4.8.1.2 above. Actual impacts are likely to be smaller because the city would probably consider ways to limit costs, such as reducing operating hours, or even closing the facility.

4.8.2 No Action

Under the no action alternative, there would be no major change in anticipated population, employment, income, or fiscal characteristics, and no disproportionate effect on minority or low-income populations within the ROI. However, if the DOE contractors could no longer continue funding for AMSE, the museum could be forced to limit hours of operation or close. This could result in layoffs or the potential loss of about 21 full-time employees.

4.9 INFRASTRUCTURE AND SUPPORT SERVICES

4.9.1 Transportation

4.9.1.1 Proposed action

New development at each of the parcels would not be large enough to have more than a minor increase in the amount of traffic entering and exiting the existing roads surrounding the parcels. A minor increase in the amount of traffic should also not substantially increase the chance of accidents occurring. However, installing turn lanes, additional traffic signals, and frontage roads could mitigate these types of potential impacts, if necessary. This would especially be true for new development at Parcel G. Access to Parcel G from Bethel Valley Road may necessitate changes to the current traffic light settings at the intersection of Bethel Valley Road and Scarboro Road.

4.9.1.2 No action

Under the no action alternative, there would be little to no change from the baseline level of vehicle trips or the potential for accidents involving vehicles in the vicinity of any of the parcels. At the baseline level of activity, traffic volume is considered to be within the existing transportation infrastructure's capacity.

4.9.2 Utilities

4.9.2.1 Proposed action

Under the proposed action, utility impacts would be expected to be minimal. New development at any of the parcels could connect to the existing city of Oak Ridge utility systems that already exist on each parcel or are immediately adjacent. Construction of new utility infrastructure would generally be limited. Existing utilities are also sufficient for the continued operation of AMSE. However, the facility has a lot of potential for a more energy-efficient technology upgrade and reduced energy consumption.

4.9.2.2 No action

No additional utility impacts would occur under the no action alternative. Existing utilities at AMSE are sufficient for continued operation.

4.10 NOISE

4.10.1 Proposed Action

Site preparation activities, erection of buildings, and the paving of parking lots for new development on any of the affected parcels would require the use of heavy equipment for the clearing, leveling, and construction of the buildings. Equipment, such as front-end loaders and backhoes, would produce noise

levels around 73 to 94 “A-weighted decibels” (dBA) at 50 ft from the work site under normal working conditions (Cantor 1996; Magrab 1975). The finishing work within the building structures would create noise levels slightly above normal background. Sound levels would be expected to dissipate to background levels within a relatively short distance and would be intermittent and temporary. No sensitive noise resources are located in the immediate vicinity of any of the three parcels.

Operation of any new developments would likely generate some minor noise. However, the AMSE property and Parcel 279.01 already experience some elevated background noise primarily from vehicle traffic and their location within the city. Although Parcel G is relatively isolated and not within an area of extensive urban development, it is also impacted somewhat by nearby traffic noise generated from vehicles traveling on Bethel Valley Road.

4.10.2 No Action

Under the no action alternative, there would be no additional noise impacts above baseline conditions.

4.11 INTENTIONAL DESTRUCTIVE ACTS

DOE is required to consider intentional destructive acts, such as sabotage and terrorism, in each EIS or EA that it prepares. A quantitative analysis of the potential for intentional destructive acts was not performed. After review, it was determined that the likelihood of such acts for the properties being considered for conveyance is extremely low. It is possible that random acts of vandalism could happen at the AMSE but would be highly unlikely for Parcel G and Parcel 279.01.

5. CUMULATIVE IMPACTS

Cumulative impacts are those that may result from the incremental impacts of an action considered additively with the impacts of other past, present, and reasonably foreseeable future actions. Cumulative impacts are considered regardless of the agency or person undertaking the other actions (40 *CFR* 1508.7, CEQ 1997), and can result from the combined or synergistic effects of individually minor actions over a period of time.

5.1 POTENTIALLY CUMULATIVE ACTIONS

This section describes present actions as well as reasonably foreseeable future actions that are considered pertinent to the analysis of cumulative impacts for the conveyance of the AMSE, Parcel G, and Parcel 279.01. The actions are as follows.

Horizon Center Industrial Park (also referred to as Parcel ED-1). DOE has transferred title to the developable portion of Parcel ED-1 (approximately 426 acres) to Horizon Center LLC, a subsidiary of the Community Reuse Organization of East Tennessee (CROET), for the continued development as an industrial/business park for research and development, medical technology, manufacturing, distribution, and corporate headquarters office facilities. DOE maintains ownership of the remainder of the parcel, which includes the Natural Area (approximately 491 acres). Horizon Center LLC, under a lease agreement with DOE leases the Natural Area.

East Tennessee Technology Park (ETTP) (Heritage Center) Reindustrialization. DOE has made some of its underutilized facilities at ETTP available for lease to CROET, who in turn is subleasing these facilities to private sector firms (DOE 1997). With the onset of the accelerated cleanup plan for ETTP, DOE has begun to transfer title to some buildings and land parcels to CROET. To date, six buildings, totaling over 300,000 ft^2, have been transferred and work is progressing on the transfer of additional facilities (CROET 2006). As cleanup is progressing, DOE and CROET are transitioning the former gaseous diffusion plant to a private industrial park known as the Heritage Center. Commercial use of these facilities does not constitute a change of the primary use of the property, which has been industrial for about 60 years.

Spallation Neutron Source Project. The Spallation Neutron Source (SNS) is a state-of-the-art, high-flux, short-pulsed neutron source facility occupying about 110 acres near ORNL. The SNS is located within the ORR on Chestnut Ridge. About 15 permanent buildings covering about 6 acres have been constructed for the project. The SNS facility, which generates subatomic particles called neutrons for materials testing and other research, began operation in April 2006. At full operation, the facility is expected to employ about 500 people and generate over 2000 user visits per year (Munger 2006).

Y-12 Modernization Program. DOE has issued a Final Site-Wide EIS and Record of Decision (DOE/EIS-0309) for the operation of the Y-12 and modernization of facilities. Major actions include construction of a Highly Enriched Uranium Materials Facility, which will replace multiple aging facilities within a single state-of-the-art storage facility; a Purification Facility, which was completed in 2004; a Uranium Processing Facility, which will replace current enriched uranium and other processing operations; and the Beryillium Capability Project, which will upgrade an existing facility. Many existing facilities have been demolished to prepare for the new construction that began in 2003. By 2013, when the Uranium Processing Facility becomes operational, Y-12 will have reduced its defense manufacturing footprint by almost half.

Oak Ridge National Laboratory Revitalization Program. DOE is implementing a Facilities Revitalization Program (FRP) at ORNL to modernize some ORNL facilities, maintain ORNL's competitive research and development capabilities, enhance worker health and safety, and reduce operating costs. The FRP includes constructing new facilities on brownfield land and remodeling numerous existing facilities to relocate ORNL staff currently housed at Y-12, other ORR facilities, and in commercial office space. New facilities have been constructed in Bethel Valley near the main ORNL entrance, near the West Portal in Bethel Valley, and within the footprint for the SNS. Some of the new construction is being funded by the state of Tennessee and the private sector. About 20 acres of brownfield property in Bethel Valley have been transferred from DOE to the private sector in support of this proposed action. The environmental consequences of this project were reviewed in an EA, and a FONSI was signed on June 1, 2001 (DOE 2001b).

Oak Ridge Science and Technology Park. DOE has leased approximately 12 acres of underutilized property to Halcyon LLC, a subsidiary of CROET. The leased property is located along Bethel Valley Road. The leased property is part of the Facilities Revitalization Project at ORNL for which DOE completed an EA (DOE/EA-1362) and issued a FONSI in 2001. It is expected that development of the area will include approximately 150,000 ft^2 of new research/office space.

Roane Regional Business and Technology Park. This industrial park is located north of Interstate 40 in Roane County approximately 3 miles southwest of the western portion of ORNL. The 655-acre site includes areas for industrial development and greenbelt uses. The park will be developed in three phases. Phase I development of 200 acres was completed in late 2001 and is expected to house industries that will provide about 500 jobs. Industries located at the site include instrumentation, light metalwork, and materials handling. Additional types of industries expected to locate at the park include information technology, automotive transportation, and corporate administrative offices (Human 2000, TECD 2006).

Oak Ridge Industrial Center. The Oak Ridge Industrial Center is located at the site partially developed by TVA for the Clinch River Breeder Reactor prior to 1983. The 1245-acre property is for sale by TVA and has been considered for development by several manufacturing industries. TVA has graded a 150-acre tract on the property to <2% slope. The remaining land is rolling to rough terrain, having an 8 to 20% slope (ORCC 1999). The developable land contains tracts with hardwood forests and pine plantations impacted by the Southern pine beetle. The site also contains cultural resources. TVA has also designated a 103-acre tract bordering Grassy Creek as the Grassy Creek Habitat Protection Area to be reserved for protection of bugbane (*Cimicifuga rubifolia*) habitat (TVA 1988). A feeder road may be constructed by the Tennessee Department of Transportation (TDOT) to improve access from State Route (SR) 58, pending the sale and further industrial development of the property (ORCC 1999).

Pine Ridge Development. In 1969 the city of Oak Ridge acquired 230 acres of property, identified as Site X, from the then Atomic Energy Commission. The property included the current Valley Industrial Park and a portion of Pine Ridge. In 1999 the city transferred approximately 71 acres of Pine Ridge between South Illinois Avenue, Union Valley Road, and Scarboro Road to the Industrial Development Board, which in turn sold the property to a private developer. The area is now being developed for office space, light manufacturing, and storage facilities.

Rarity Ridge Development. A private development company is constructing a mixed, residential/commercial development project for the former Boeing property in western Oak Ridge (Roane County). The developer purchased about 1200 acres from the previous property owner and an additional 182 acres of adjoining floodplain from DOE. DOE completed an EA for the transfer of the floodplain (DOE/EA-1361) and issued a FONSI on January 31, 2001. In February 2000, the Oak Ridge City Council voted to rezone the property from industrial to mixed use. The most recent Rarity Ridge plan

calls for 3,000 to 4,000 new housing units and 500,000 to 1,250,000 ft^2 of commercial space. More than 100 acres are planned for parks, 17 acres for active recreation, and more than 30 acres will be retained as a preserve with limited access. In addition, approximately 440 acres will be transferred to a third party for open space and recreational purposes. Up to 200 homes may be completed by the end of 2006.

Parcel ED-6 Development. DOE has determined that Parcel ED-6 (approximately 336 acres) is excess property and is considering conveyance to the city of Oak Ridge for new residential development. Under the mixed development alternative, a portion of the land could also be used for commercial development (offices and retail establishments). The general location of the property is west of Wisconsin Avenue, south of Whippoorwill Drive, north of the Oak Ridge Turnpike (SR 95), and east of the Horizon Center Industrial Park. A portion of the North Boundary Greenway is located on the parcel and is maintained by the city under a license from DOE. Parcel ED-6 is part of the area included in the ORR Land Use Planning Process conducted during 2001 and 2002 (Focus Group 2002).

5.2 CUMULATIVE IMPACTS BY RESOURCE AREA

5.2.1 Land Use

Of the original 58,582 acres of land purchased in 1942 by the Federal Government, 24,860 acres have been conveyed and approximately 34,000 acres remain within the ORR. The purposes that ORR land has been conveyed for include:

- 16,855 acres for residential, commercial, and community development;
- 1,031 acres to federal agencies and for transportation easements;
- 3,208 acres for preservation and recreation;
- 3,755 acres for industrial development; and
- 11 acres for mission-related purposes.

Current land outgrants (lease/license/permit areas) include:

- 2,966 acres for Black Oak Ridge Conservation Easement;
- 2,929 acres for the Three Bend Scenic and Wildlife Management Refuge Area; and
- 491 acres for the Parcel ED-1 Natural Area.

Title transfer of land and facilities at ETTP could potentially remove an additional 1,600 acres of land. However, the majority of the ETTP area being considered for title transfer has already been developed for industrial purposes or been impacted in some other way. Further development would not result in a major change from the existing industrial land use. The conveyance of the AMSE and associated property, Parcel G, and Parcel 279.01 would add approximately 24 acres of additional land for development purposes. Because the area within each of the parcels has been previously disturbed and the total area is small compared to the remaining ORR land, the change in land use would result in negligible cumulative land use impacts.

5.2.2 Air Quality

Although the proposed action evaluated in this EA does not appear to have the potential to bring about major impacts to air quality, the overall trend in the Roane and Anderson counties area does present such a potential. Other types of industrial development, increased traffic, and general population growth could also impact air quality.

Construction activities, although exempt from PSD limits in 40 *CFR* 52.21, can be a major source of emissions, particularly PM_{10}, in the form of fugitive dust. Such sources tend to be of short duration (during the construction period) and largely result in impacts of a localized nature. For example, construction of the Knoxville bypass and widening of SR 58 would produce particulate emissions during disturbance of soils, but these temporary emissions could be minimized by application of wetting agents during dry periods.

5.2.3 Socioeconomics

Major industrial initiatives include reindustrialization of the ETTP, Horizon Center development, the SNS project at ORNL, the Roane Regional Business and Technology Park, and potential development of the Oak Ridge Industrial Center. The Rarity Ridge initiative also includes plans for commercial development. The cumulative impact of new development is likely to result in increased population, employment, and income. The parcels included in the proposed action form a very small part of the total acreage proposed for development, and its effect on the cumulative impacts is expected to be correspondingly small.

Actual employment and income impacts from cumulative development will depend on the success of each of these developments and the overall rate at which development proceeds, both of which are uncertain. Developers have recently scaled back plans for some of these projects based on current market conditions (Huotari 2006). Property tax revenue will depend on the value of the properties, future tax rates, and any tax abatements that may be negotiated. While additional sales tax revenue from proposed commercial development is also likely, the exact amount will depend on the amount and type of new commercial development and residents' actual buying patterns.

5.2.4 Transportation

Cumulative transportation impacts in Roane and Anderson counties could occur from increased development and growth. These potential impacts could be combined with ongoing environmental restoration and decontamination and decommissioning activities on the ORR and with the planned expansion of the state highways by TDOT. The main transportation impact of commercial and industrial development would be an increase in average daily traffic volumes.

Associated with increases in traffic is the potential for an increased number of accidents, additional noise and air pollution, and road deterioration and damage. The increase in average daily traffic volumes could result in inconveniences for other vehicles (personal and commercial) on affected routes and connecting roads. Commercial operations could suffer temporarily reduced business while customers avoid affected areas because of traffic delays. Increased pavement deterioration and damage could increase costs associated with maintaining or resurfacing roads and highways. Although noise associated with increases in traffic is normally not harmful to hearing, increased traffic noise is considered by the public to be a nuisance. Increased accidents put an additional strain on local emergency response personnel. Increased vehicular traffic also has the greatest potential to increase air pollution in the local area because emissions from motor vehicles are poorly regulated.

5.2.5 Biodiversity

The greatest threat to reduced biodiversity of an area or region is conversion of cover types from natural systems to completely different and maintained systems. As an example, the conversion of an upland hardwood forest to pasture or hayfield use can result in nearly the same loss of biodiversity as if the woodland were converted to industrial use.

No areas of sensitive or rare habitats or species are located within any of the three parcels considered in this EA. Conveyance of the properties and any subsequent development would have a negligible affect on the biodiversity of the Oak Ridge area.

Some local industrial development projects are mitigating impacts to habitats. Approximately 491 acres of the Horizon Center is not available for development and contains Natural Area corridors and buffers for native vegetation and wildlife species. There are 103 acres along Grassy Creek reserved for habitat protection at the Oak Ridge Industrial Center (TVA 1988). About 61 acres of the Roane Regional Business and Technology Park are being left as a greenbelt area. The SNS project will create wetland habitat to replace habitat lost during construction, and cooling water will be dechlorinated prior to discharge to minimize effects on aquatic resources (DOE 1999). In addition, a forested pathway will be retained along Chestnut Ridge during vegetation clearing for the SNS project to minimize effects on terrestrial wildlife movements (DOE 1999). Efforts to reuse the industrial facilities at ETTP could reduce the number of habitat areas that might otherwise be converted to industrial sites. Additionally, approximately 3000 acres of Blackoak Ridge and Mckinney Ridge are being managed by the state as a conservation easement under a license from DOE. Additionally, portions of Pine Ridge are not suitable for development and provide a large area to protect sensitive ecological resources.

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6. REGULATORY COMPLIANCE

Section 176(c) of the Clean Air Act of 1970 (CAA) (42 U.S.C. 7401, et seq.) requires federal agencies to ensure that their actions are consistent with the CAA and with applicable air quality management plans (state implementation plans). Agencies are required to evaluate their proposed actions to make sure they will not violate or contribute to new violations of any federal ambient air quality standards; will not increase the frequency or severity of any existing violations of federal ambient air quality standards; and will not delay the timely attainment of federal ambient air quality standards.

The EPA has promulgated separate rules that establish conformity analysis procedures for transportation-related action and for other (general) federal agency actions. The EPA general conformity rule requires a formal conformity determination document for federal actions occurring in nonattainment areas or in certain designated maintenance areas when the total direct and indirect emissions of nonattainment pollutants (or their precursors) exceed specified thresholds. The CAA conformity guidelines do not apply to the proposed DOE action because the affected parcels are in an attainment area.

During the NEPA process, DOE contacts the FWS to obtain the latest information on threatened and endangered species or designated critical habitats that could occur in the vicinity of the proposed action. If DOE determines that any threatened and endangered species or critical habitat could be adversely impacted by the proposed action, informal or formal consultation with the FWS is initiated under Sect. 7 of the Endangered Species Act of 1973 (16 U.S.C. 1531, et seq.). The TDEC-Division of Natural Heritage database is also often checked for listings of sensitive species that may occur in or near the affected area. Threatened and endangered species are discussed in Sects. 3.6.4 and 4.6.4. Appendix A includes correspondence between DOE and the FWS.

DOE is also required under Sect. 106 of the NHPA to consult with the TN-SHPO regarding the presence of archaeological and historic sites and the potential for adverse impacts at a proposed project site. Consultation with the TN-SHPO is discussed in Sect. 4.7.1.

Under the FPPA, DOE is sometimes required to consult with the Natural Resource Conservation Service regarding the presence and future use of prime farmland soils at a proposed site. The Natural Resources Conservation Service has advised DOE that for property that lies wholly within the city of Oak Ridge, the prime farmland designation is waived, and other uses of the land, such as industrial development, are permitted.

The DOE Regulation for Compliance with Floodplain/Wetlands Environmental Review Requirements [10 *CFR* 1022.5(d)] states that "when property in a floodplain or wetlands is proposed for lease, easement, ROW, or disposal to non-Federal public or private parties, DOE shall: (1) identify those uses that are restricted under federal, state, or local floodplains or wetlands regulations; (2) attach other appropriate restrictions to the uses of the property; or (3) withhold the property from conveyance."

CERCLA 120(h) establishes many requirements for transfer of federally owned property, including property that has been contaminated or property that can be identified as uncontaminated.

Relevant DOE orders that pertain to actions involving property transfer include DOE Order 430.1, "Life Cycle Asset Management"; DOE Order 5400.1, "General Environmental Protection Program"; and DOE Order 5400.5, "Radiation Protection of the Public and the Environment."

Private developers would be responsible for seeking and obtaining federal, state, and/or local permits and licenses for any proposed pre-construction, construction, and operation activities Regulations implementing the CAA, Clean Water Act of 1972, Nuclear Regulatory Commission rules, Resource Conservation and Recovery Act of 1976, Safe Drinking Water Act of 1974, Toxic Substances Control Act of 1976, Emergency Planning and Community Right-to-Know Act of 1986, and others may apply.

7. LIST OF AGENCIES AND PERSONS CONTACTED

The following agencies and persons were contacted for information and data used in the preparation of this EA.

Name	Affiliation	Location	Topic
Lee Barclay	U.S. Fish and Wildlife Service	Cookeville, TN	Endangered Species Act, Sect. 7 – Informal Consultation
Jeff Deardorff	Community Reuse Organization of East Tennessee	Oak Ridge, TN	Cumulative Impacts
Kim Denton	Oak Ridge Chamber of Commerce	Oak Ridge, TN	Cumulative Impacts
Amy Fitzgerald	City of Oak Ridge	Oak Ridge, TN	Socioeconomics
Joseph Garrison	Tennessee Historical Commission	Nashville, TN	National Historic Preservation Act, Sect. 106 – Compliance
Gary Human	Roane County Industrial Development Board	Kingston, TN	Cumulative Impacts
Michael Ryon	Oak Ridge National Laboratory	Oak Ridge, TN	Aquatic Resources
Billy Stair	Oak Ridge National Laboratory	Oak Ridge, TN	Socioeconomics
Steve Stow	American Museum of Science and Energy Foundation	Oak Ridge, TN	Background
Lawrence Young	Community Reuse Organization of East Tennessee	Oak Ridge, TN	Socioeconomics

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APPENDIX A

CORRESPONDENCE LETTERS

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

November 22,2002

Certified Mail
Return Receipt Requested

4WD-FFB

Daniel H. Wilken
Assistant Manager for Administration
U.S. Department of Energy
Oak Ridge Operations Office
P.O.Box 2001
Oak Ridge, Tennessee 37831

SUBJECT: Concurrence with Identification of Uncontaminated Property (Parcel G) for Transfer Purposes under CERCLA § 120(h)(4)(B)

Dear Mr. Wilken:

In response to your letter of October 23,2002, The Environmental Protection Agency (EPA) hereby concurs with the Department of Energy's (DOE) identification of Parcel G as uncontaminated property, in accordance with § 120(h)(4)(B) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA).

Based on DOE's October 23,2002 supplemental information regarding Merak Spring; the newly collected swine waste pond surface water and sediment samples; the Tennessee Department of Environment and Conservation (TDEC) walkover survey; EPA's site visit; the information provided in "Comprehensive Environmental Response, Compensation, and Liability Act Section 120(h) Report for Parcel G, Oak Ridge, Tennessee" (June 2002); and the data collected during the Remedial Investigation/Feasibility Study (RI/FS) and Record of Decision (ROD) for the South Campus Facility, EPA believes Parcel G is properly classified as "uncontaminated" as that term is used in CERCLA § 120(h)(4).

This conclusion is based on the following: Historical records, aerial photographs, and former site worker interviews indicated that Parcel G was utilized to hold animals in a clean and uncontaminated environment prior to being transported to the experiment station at South Campus Facility. The information also indicated that there is no reason to believe that hazardous substances were stored, released, or disposed of on any portion of Parcel G. EPA's site visit

verified information submitted by DOE pertaining to the condition of the property to be accurate. The RI/FS and ROD for the South Campus Facility found nothing of concern on Parcel G. Groundwater samples around the swine waste ponds revealed contaminants at levels of no concern. Groundwater samples in Merak Spring, located outside of the property boundaries of Parcel G and south of the swine waste ponds revealed the presence of TCE. As discussed in the supplemental information package, the presence of that TCE was attributed to the TCE plume under the South Campus facility. The levels of TCE do not pose a significant risk to human health or the environment with respect to Parcel G. The flow patterns do not indicate a likelihood that the TCE would ever reach Parcel G, but rather would discharge into the surface water of Scarboro Creek at points outside of Parcel G. (While there is no concern with respect to Parcel G, EPA will, however, be revisiting the Monitoring and Natural Attenuation remedy in place at the South Campus facility to determine the effectiveness of the remedy with concerns based on the migration of TCE to a distance far removed from the plume and the discharge to surface water.) The newly submitted swine waste pond surface water and sediment data from TDEC revealed no contaminants at levels of concern. TDEC also reported that the radiological walk over survey found nothing.

EPA understands from earlier discussions with TDEC and DOE, that DOE intends to address TDEC's concern that groundwater restiictions be put in place via a deed restriction on the use, including no withdrawal, of groundwater on the property.

Consistent with the three-party Oak Ridge Reservation Federal Facility Agreement (FFA) the transfer documents between DOE and the transferee must contain notice of the existence and purpose of the FFA (Section XLIII-Property Transfer). Furthermore, the deed of transfer must contain certain covenants as specified in CERCLA § 120(h)(4)(D), one of which grants the United States continued access for any future remediation requirements, including those necessary to fulfill DOE's obligations under the **FFA.**

If you have an questions regarding this uncontaminated property determination concurrence, please call me at **404-562-8288.**

Sincerely,

Lila Llamas

Lila Llamas
Remedial Project Manager

cc: Doug McCoy, TDEC
Dave Adler, DOE
Local Oversight Committee
Oak Ridge SSAB
City of Oak Ridge

STATE OF TENNESSEE

DON SUNDQUIST
GOVERNOR

November 26, 2002

12/2/02

James A. Turi
Acting Manager
United States Department of Energy
Oak Ridge Operations Office
P.O. Box 2001
Oak Ridge, Tennessee 37831

RE: Comprehensive Environmental Response, Compensation, and Liability Act Section 120(h) Report For Parcel 279.01, the American Museum of Science and Energy, and Associated Property in Oak Ridge, Tennessee.

Dear Mr. Turi:

This letter is to express my approval of the Department of Energy's decision to transfer tow parcels, i.e., Parcel 279.01 and the American Museum of Science and Energy, to the City of Oak Ridge.

Based on the information you provided in the *Comprehensive Environmental Response, Compensation, and Liability Act Section 120(h) Report for Parcel 279.01, the American Museum of Science and Energy, and Associated Property in Oak Ridge, Tennessee*, it appears this transfer will comply with the transfer provisions found in CERCLA § 120(h). It is my understanding the concurrence to transfer does not waive or impact in any way the State's right to recover any damages that may have been caused to natural resources.

Sincerely,

Don Sundquist

Don Sundquist

State Capitol, Nashville, Tennessee 37243-0001
Telephone No. (615) 741-2001

United States Department of the Interior

FISH AND WILDLIFE SERVICE
446 Neal Street
Cookeville, TN 38501

April 16, 2002

OFFICIAL FILE COPY
AMESQ
Log No. 51870
Date Received APR 23 2002
File Code

Mr. James L. Elmore, Ph.D.
U.S. Department of Energy
Oak Ridge Operations Office
P.O. Box 2001
Oak Ridge, Tennessee 37831

Dear Dr. Elmore:

Thank you for your letter and enclosure of March 7, 2002, transmitting the Biological Assessment (BA) for the proposed transfer of Parcel G to the City of Oak Ridge, Anderson County, Tennessee. The BA includes an evaluation of potential effects to the Federally endangered gray bat (*Myotis grisescens*) and Indiana bat (*Myotis sodalis*). U.S. Fish and Wildlife Service (Service) personnel have reviewed the BA and offer the following comments for consideration.

The BA is adequate and supports the conclusion of not likely to adversely affect, with which we concur. In view of this, we believe that the requirements of Section 7 of the Endangered Species Act (Act) have been fulfilled and that no further consultation is needed at this time. However, obligations under Section 7 of the Act must be reconsidered if: (1) new information reveals that the proposed action may affect listed species in a manner or to an extent not previously considered, (2) the proposed action is subsequently modified to include activities which were not considered in this biological assessment, or (3) new species are listed or critical habitat designated that might be affected by the proposed action.

Our previous comments of February 12, 2002, regarding the Environmental Assessment (EA) for the transfer of the American Museum of Science and Energy, Parcel G, and Parcel 279.01 to the City of Oak Ridge remain valid. We would appreciate receiving a copy of the final EA including the wetlands assessment for Parcel G.

These constitute the comments of the U.S. Department of the Interior in accordance with provisions of the Endangered Species Act (87 Stat. 884, as amended: 16 U.S.C. 1531 et seq.). We appreciate the opportunity to comment. Should you have any questions or need further assistance, please contact Steve Alexander of my staff at 931/528-6481, ext. 210, or via e-mail at *steven_alexander@fws.gov*.

Sincerely,

David Pelren
for
Lee A. Barclay, Ph.D.
Field Supervisor

xc: David Harbin, TDEC, Oak Ridge
Dave McKinney, TWRA, Nashville

TENNESSEE HISTORICAL COMMISSION
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
2941 LEBANON ROAD
NASHVILLE, TN 37243-0442
(615) 532-1550

December 14, 2006

Ms. Katatra C. Vasques
Oak Ridge Operations Office
Post Office Box 2001
Oak Ridge, Tennessee, 37831

RE: DOE, TRANSFER/AMSE TO CITY OF OAK RIDGE, OAK RIDGE, ANDERSON COUNTY

Dear Ms. Vasques:

In response to your request, received on Friday, December 8, 2006, we have reviewed the covenant documents you submitted regarding your proposed undertaking. Our review of and comment on your proposed undertaking are among the requirements of Section 106 of the National Historic Preservation Act. This Act requires federal agencies or applicant for federal assistance to consult with the appropriate State Historic Preservation Office before they carry out their proposed undertakings. The Advisory Council on Historic Preservation has codified procedures for carrying out Section 106 review in 36 CFR 800. You may wish to familiarize yourself with these procedures (Federal Register, December 12, 2000, pages 77698-77739) if you are unsure about the Section 106 process.

Considering available information, we find that the project as currently proposed will NOT ADVERSELY AFFECT ANY PROPERTY THAT IS ELIGIBLE FOR LISTING IN THE NATIONAL REGISTER OF HISTORIC PLACES. Therefore, this office has no objection to the implementation of this project. Please direct questions and comments to Joe Garrison (615) 532-1550-103. You may find additional information concerning the Section 106 process and the Tennessee SHPO's documentation requirements at www.state.tn.us/environment/hist/sect106.shtm.

We appreciate your cooperation.

Sincerely,

Richard G. Tune
Deputy State Historic
Preservation Officer

RGT/jyg

APPENDIX B

FEDERAL REGISTER NOTICE OF RULE

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§ 299.1 Prescribed forms.

* * * * *

Form No.	Edition date	Title
*	*	* * *
I–129W	12–22–99	H–1B Data Collection and Filing Fee Exemption.
*	*	* * *

7. Section 299.5 is amended in the table by revising the entry for Form "129W" to read as follows:

§ 299.5 Display of control numbers.

* * * * *

INS form No.	INS form title	Currently assigned OMB Control No.
*	* * *	*
I–129W	H–1B Data Collection and Filing Exemption	1115–0225
*	* * *	*

Dated: February 24, 2000.

Doris Meissner,

Commissioner, Immigration and Naturalization Service.

[FR Doc. 00–4766 Filed 2–28–00; 8:45 am]

BILLING CODE 4410–10–M

DEPARTMENT OF ENERGY

[Docket No. FM–RM–99–RPROP]

10 CFR PART 770

RIN 1901–AA82

Transfer of Real Property at Defense Nuclear Facilities for Economic Development

AGENCY: Department of Energy.

ACTION: Interim final rule and opportunity for public comment.

SUMMARY: The Department of Energy (DOE) is establishing a process for disposing of unneeded real property at DOE's defense nuclear facilities for economic development. Section 3158 of Public Law 105–85, the National Defense Authorization Act for Fiscal Year 1998, directs DOE to prescribe regulations which describe procedures for the transfer by sale or lease of real property at such defense nuclear facilities. Transfers of real property under these regulations are intended to offset negative impacts on communities caused by unemployment from related DOE downsizing, facility closeouts and work force restructuring at these facilities. Section 3158 also provides discretionary authority to the Secretary to indemnify transferees of real property at DOE defense nuclear facilities. This regulation sets forth the indemnification procedures.

EFFECTIVE DATE: This rule is effective February 29, 2000. Comments on the interim final rule should be submitted by April 14, 2000. Those comments received after this date will be considered to the extent practicable.

ADDRESSES: Send comments (3 copies) to James M. Cayce, U.S. Department of Energy, Office of Management and Administration, MA–53, 1000 Independence Avenue, SW, Washington, D.C. 20585. The comments will be included in Docket No. FM–RM–99–PROP and they may be examined between 9:00 a.m. and 4:00 p.m. at the U.S. Department of Energy Freedom of Information Reading Room, Room 1E–190, 1000 Independence Avenue, SW, Washington, D.C. 20585, (202) 586–6020.

FOR FURTHER INFORMATION CONTACT: James M. Cayce, U.S. Department of Energy, MA–53, 1000 Independence Avenue, SW, Washington, D.C. 20585, (202) 586–0072.

SUPPLEMENTARY INFORMATION:

I. Background

DOE's real property consists of about 2.4 million acres and over 21,000 buildings, trailers, and other structures and facilities. In the eight years since the end of the Cold War, DOE has been engaged in a two-part process in which DOE reexamines its mission need for real property holdings, and then works to clean up the land and facilities that have been contaminated with hazardous chemicals and nuclear materials. The end result will be the availability, over time and to widely varying degree at DOE sites, of real property for transfer. DOE may sell or lease real property under a number of statutory authorities. The primary authorities are section 161g of the Atomic Energy Act (42 U.S.C. 2201(g)) and sections 646(c)–(f) (also known as the "Hall Amendment") and 649 of the Department of Energy Orgauization Act, as amended (42 U.S.C. 7256(c)–(f) and 7259). Section 161g of the Atomic Energy Act broadly authorizes DOE to transfer real property by sale or lease to another party. Section 649 applies to leasing of underutilized real property. Section 646(c)–(f) applies to specific facilities that are to be closed or reconfigured. In addition, DOE may declare real property as "excess, underutilized or temporarily underutilized," and dispose of such real property under provisions of the Federal Property and Administrative Services Act, 40 U.S.C. 472 *et seq.* With the exception of sections 646(c)–(f) of the DOE Organization Act, these anthorities do not deal specifically with transfer of real property for economic development.

In section 3158 of the National Defense Authorization Act for Fiscal Year 1998 ("Act"), Congress directed DOE to prescribe regulations specifically for the transfer by sale or lease of real property at DOE defense nuclear facilities for the purpose of permitting economic development (42 U.S.C. 7274q(a)(1)). Section 3158 also provides that DOE may hold harmless and indemnify a person or entity to whom real property is transferred against any claim for injury to person or property that results from the release or threatened release of a hazardous substance, pollutant or contaminant as a result of DOE (or predecessor agency) activities at the defense nuclear facility (42 U.S.C. 7274q(b)). The indemnification provision in section 3158 is similar to provisions enacted for the Department of Defense Base Realignment and Closure program under Section 330 of the Defense Authorization Act for Fiscal Year 1993, Public Law 102–484.

The indemnification provisions in section 3158 aid these transfers for economic development because, even at sites that have been remediated in accordance with applicable regulatory requirements, uncertainty and risk to capital may be presented by the possibility of as-yet undiscovered contamination remaining on the property. Potential buyers and lessees of real property at defense nuclear facilities have sometimes expressed a need to be indemnified as part of the transfer. Furthermore, indemnification often is requested by lending or underwriting institutions which finance the purchase, redevelopment, or future private operations on the transferred property to protect their innocent interests in the property. Indemnification may be granted under this rule when it is deemed essential for facilitating local reuse or redevelopment as authorized under 42 U.S.C. 7274q.

This rule is not intended to affect implementation of the Joint Interim Policy that DOE and the Environmental Protection Agency (EPA) entered into on June 21, 1998, to implement the consultation provisions of the Hall Amendment (42 U.S.C. 7256(e)). The Joint Interim Policy provides specific direction for instances in which Hall Amendment authority is used by DOE to enter into leases at DOE sites which are on the EPA's National Priorities List. As

stated in the scope of the joint policy, at National Priorities List sites, EPA was given the authority to concur in the DOE determination that the terms and conditions of a lease agreement are "consistent with safety and protection of public health and the environment."

II. Section-by-Section Discussion

The following discussion presents information related to some of the provisions in today's interim final rule, and explains DOE's rationale for those provisions.

1. Section 770.2 (Coverage)

Generally, real property covered by these regulations includes land and facilities at DOE defense nuclear facilities offered for sale or lease for the purpose of permitting the economic development of the property. Leases of improvements to real property that has been withdrawn from the public domain are covered, but not the withdrawn land. If any of these improvements are removable, they can be transferred under this part.

2. Section 770.4 (Definitions)

DOE has included a definition of "Community Reuse Organization" (CRO) in this rule. CROs are established and funded by DOE to implement community transition activities under section 3161 of the National Defense Authorization Act for Fiscal Year 1993 (42 U.S.C. 7274h). Membership in a CRO is composed of a broad representation of persons and entities from the affected communities. The CRO coordinates local community transition planning efforts with the DOE's Federal Advisory Committees, "Site Specific Advisory Boards," and others to counter adverse impacts from DOE work force restructuring. CROs may act as agent or broker for parties interested in undertaking economic development actions, and they can assure a broad range of participation in community transition activities.

Section 3158 defines "defense nuclear facility" by cross-reference to the definition in section 318 of the Atomic Energy Act of 1954 (42 U.S.C. 2286(g)). These facilities are atomic energy defense facilities involved in production or utilization of special nuclear material; nuclear waste storage or disposal facilities; testing and assembly facilities; and atomic weapons research facilities, which are under the control or jurisdiction of the Secretary of Energy. DOE has identified the facilities receiving funding for atomic energy defense activities (with the exception of activities under Office of Naval Reactors) which are covered by the definition. A list of these defense nuclear facilities is included at the end of this section-by-section discussion for the convenience of the interested public.

"Excess real property" is DOE property that, after screening at all levels of DOE, is found to be unneeded for any of the DOE's missions.

The term "underutilized real property or temporarily underutilized real property" means an entire parcel of real property, or a portion of such property, that is used at irregular intervals or for which the mission need can be satisfied with only a portion of the property. These designations are reviewed on an annual basis by the certified real property specialist at each Field Office.

3. Sections 770.5 and 770.6 (Identification of Real Property for Transfer)

DOE annually conducts surveys of its real property to determine if the property is being fully utilized. In a related process, DOE annually reviews its real property to identify property that is no longer needed for DOE missions. Real property covered by this part will be initially identified by these two processes. Under this part, Field Office Managers will provide the established CRO, and other interested persons and entities with a list of the real property that may be transferred under these regulations. Field Office Managers may make this list available by mail to known entities, or other means (such as posting on DOE Internet sites), or upon request. DOE will provide existing information on listed property, including its policies under the relevant transfer authority, information on the physical condition of the property, environmental reports, safety reports, known use restrictions, leasing term limitations and other pertinent information. Section 770.6 provides that a CRO or other person or entity may request that the Field Office Manager make available specific real property for possible transfer in support of economic development.

4. Section 770.7 (Transfer Process)

To initiate the transfer process, the potential purchaser or lessee must prepare and provide to the Field Office Manager a proposal for the transfer of real property at a defense nuclear facility for economic development. The proposal must contain enough detail for DOE to make an informed determination that the transfer, by sale or lease, would be in the best interest of the Government. Every proposal must include the information specified in section 770.7(a)(1) relating to the scope and economic development impact of the proposed transfer. A proposal must include: a description of the real property proposed to be transferred; the intended use and duration of use of the real property; a description of the economic development that would be furthered by the transfer (*e.g.*, jobs to be created or retained, improvements to be made); information supporting the economic viability of the proposed development; and the consideration offered and any financial requirements. A proposal also should explicitly state if indemnification against claims is or is not being requested, and, if requested, the specific reasons for the request and a certification that the requesting party has not caused contamination on the property. This requirement stems from section 3158(b) of the Act, which requires DOE to include in any agreement for the sale or lease of real property provisions stating whether indemnification is or is not provided (42 U.S.C. 7274q(b)).

Paragraph 770.7(b) provides that DOE will review a proposal and within 90 days notify the person or entity submitting the proposal of its decision on whether the transfer is in the best interest of the Government and DOE's intent to proceed with development of a transfer agreement. DOE may consider a variety of factors in making its decision, such as the adverse economic impacts of DOE downsizing and realignment on the region, the public policy objectives of the laws governing the downsizing of DOE's production complex, the extent of state and local investment in any proposed projects, the potential for short- and long-term job generation, the financial responsibility of the proposer, current market conditions, and potential benefits to the federal government from the transfer. Since many defense nuclear facilities have ongoing missions, particular transfers may be subject to use restrictions that are made necessary by specific security, safety, and environmental requirements of the DOE facility. If DOE does not find the transfer is in the best interest of the Government and will not pursue a transfer agreement, it will, by letter, inform the person or entity that submitted it of DOE's decision and reasons. Agreement by DOE to pursue development of a transfer agreement does not commit DOE to the project or constitute a final decision regarding the transfer of the property.

Section 3158 of the Act prohibits DOE from transferring real property for economic development until 30 days have elapsed following the date on which DOE notifies the defense

committees of Congress of the proposed transfer of real property. Therefore, if DOE determines that a proposal would be in the best interest of the Government, it then will notify the congressional defense committees of the proposed transfer. In particular instances, it is possible that this notification requirement may delay the development of the transfer agreement.

Before a proposed transfer agreement is finalized, the Field Office Manager must ensure that DOE's National Environmental Policy Act (NEPA) environmental review process is completed. Depending on the transfer authority used and the condition of the real property, other agencies may need to review or concur with the terms of the agreement. For example, for Hall Amendment leases at National Priorities List sites, EPA was given the authority to concur in the DOE determination that the terms and conditions of a lease agreement are consistent with safety and the protection of public health and the environment. The DOE will also comply with any other applicable land transfer statutes.

DOE has established policy that requires public participation in the land and facility planning, management, and disposition decision process (under DOE O 403.1A, Life Cycle Asset Management). Generally, because the proposals are likely to be generated by or in coordination with a CRO, a separate public involvement process should not be necessary. However, there may be instances in which a specific authority requires separate or additional procedures (*e.g.*, commitments in agreements signed with tribal, state, or local governments).

5. Section 770.8 (Transfer for Less Than Fair Market Value)

The House Conference Report for the Act (105–340) noted that DOE should address in this part, when it is appropriate for DOE to transfer or lease real property below fair market value or at fair market value. DOE will generally pursue fair market value for real property transferred for economic development. DOE may, however, agree to sell or lease such property for less than fair market value if the statutory transfer authority used imposes no market value restriction and the real property reqnires considerable infrastructure improvements to make it economically viable, or if in DOE's judgment a conveyance at less than market value would further the public policy objectives of the laws governing the downsizing of defense nuclear facilities. DOE has the authority to transfer real and personal property at less than fair market value (or without consideration) in order to help local communities recover from the effects of downsizing of defense nuclear facilities.

6. Sections 770.9–770.11 (Indemnification)

DOE real property often is viewed by the public as a potential liability even if it has been cleaned to specific regulatory requirements. To improve the marketability of previously contaminated land and facilities, DOE may indemnify a person or entity to whom real property is transferred for economic development against any claim for injury to persons or property that results from the release or threatened release of a hazardous substance, pollutant or contaminant attributable to DOE (or predecessor agencies).[1] DOE will enter into an indemnification agreement under this rule if a person or entity requests it, and indemnification is deemed essential for the purposes of facilitating reuse or redevelopment. A claim for injury to person or property will be indemnified only if an indemnification provision is included in the agreement for sale or lease and in subsequent deeds or leases.

This general DOE indemnification policy is subject to the conditions in section 770.9 of this part. As provided by section 3158(c)(1) of the Act (42 U.S.C. 7274q(c)(1)), a person or entity who requests indemnification under a transfer agreement must notify DOE (the Field Office Manager) in writing within two years after the claim accrues.

Section 770.9 contains several other requirements and conditions that are taken from section 3158(c)(1) of the Act. The person or entity requesting indemnification for a particular claim must furnish the Field Office Manager pertinent papers regarding the claim received by the person or entity, and any evidence or proof of the claim; and must permit access to records and personnel for purposes of defending or settling the claim.

DOE also is prohibited by section 3158(b)(3) from indemnifying a person or entity for a claim "to the extent the persons and entities * * * contributed to any such release or threatened release" (42 U.S.C. 7274q(b)(3)). This limitation on DOE's ability to indemnify potentially liable parties is included in the rule in paragraph 770.9(b).

One additional statutory limitation on indemnification is that DOE may not indemnify a transferee for a claim, even if an indemnification agreement exists, if the person requesting indemnification does not allow DOE to settle or defend the claim. This limitation is in paragraph 770.9(c), and it is required by section 3158(d)(2) of the Act (42 U.S.C. 7274q(d)(2)).

Section 770.10 provides, as stipulated in the Act, that if an indemnification claim is denied by DOE, the person or entity must be informed through a notice of final denial of a claim by certified or registered mail. If the person or entity wishes to contest the denial, then that person or entity must begin legal action within six months after the date of mailing of a notice of final denial of a claim by DOE. (42 U.S.C. 7274q(c)(1)).

Section 770.11 incorporates the Act's provision that a claim "accrues" on the date on which the person asserting the claim knew (or reasonably should have known) that the injury to person or property was caused or contributed to by the release or threatened release of a hazardous substance, pollutant, or contaminant as a result of DOE activities at the defense nuclear facility on which the real property is located. (42 U.S.C. 7274q(c)(2)). DOE may not waive this timeliness requirement.

Appendix to Preamble of 10 CFR Part 770

List of Defense Nuclear Facilities: This list is consists of the defense nuclear facilities noted as covered facilities in House Report 105–137, and is not meant to be inclusive.

Argonne National Laboratory
Brookhaven National Laboratory
Fernald Environmental Management Project Site
Hanford Site
Idaho National Engineering and Environmental Laboratory
Kansas City Plant
K–25 Plant (East Tennessee Technology Park)
Lawrence Livermore National Laboratory
Los Alamos National Laboratory
Mound Facility
Nevada Test Site
Oak Ridge Reservation
Oak Ridge National Laboratory
Paducah Gaseous Diffusion Plant
Pantex Plant
Pinellas Plant
Portsmouth Gaseons Diffusion Plant
Rocky Flats Environmental Technology Site

[1] Regardless of the existence of an indemnification agreement, DOE would be responsible for the release, or threatened release of a hazardous substance or pollutant or contaminant resulting from the activities of DOE or its predecessor agencies, if the property was not remediated to required standards. This would also apply to early transfers, by sale or lease, of contaminated real property under Section 120(h)(3)(C) of the Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S.C. 9620(h)(3)(C).

Sandia National Laboratory
Savannah River Site
Waste Isolation Pilot Project
Y–12 Plant

III. Public Comment

The interim final rule published today relates to public property and, therefore, is exempt from the notice and comment rulemaking requirements in the Administrative Procedure Act, 5 U.S.C. 553. Nonetheless, DOE is providing an opportunity for interested persons to submit written comments on the interim final rule. Three copies of written comments should be submitted to the address indicated in the **ADDRESSES** section of this rule. All comments received will be available for public inspectiou in the Department of Energy Reading Room, 1E–190, Forrestal Building, 1000 Independence Avenue, S.W., Washington, D.C., between the hours of 9 a.m. and 4 p.m., Monday through Friday, except federal holidays. All written comments received on or before the date specified in the beginning of this rule will be considered by DOE. Comments received after that date will be considered to the extent that time allows.

Any person submitting information or data that is believed to be confidential, and exempt by law from public disclosure, should submit one complete copy of the document and two additional copies from which the information believed to be confidential has been deleted. DOE will makes its own determination with regard to the confidential status of the information and treat it as provided in 10 CFR 1004.11.

IV. Procedural Requirements

A. Review Under Executive Order 12866

Today's regulatory action has been determined not to be "a significant regulatory action" under Executive Order 12866, "Regulatory Planning and Review," 58 FR 51735 (October 4, 1993). Accordingly, this action was not subject to review under that Executive Order by the Office of Information and Regulatory Affairs of the Office of Management and Budget.

B. Review Under the Regulatory Flexibility Act

The Regulatory Flexibility Act, 5 U.S.C. 601 *et seq.*, requires preparation of an initial regulatory flexibility analysis for any rule that by law must be proposed for public comment, unless the agency certifies that the rule, if promulgated, will not have a significant economic impact on a substantial number of small entities. Today's interim final rule concerning the sale or lease of real property at defense nuclear facilities is not subject to the Regulatory Flexibility Act because neither the Administrative Procedure Act (5 U.S.C. 553(a)(2)), nor any other law requires DOE to propose the rule for public comment.

C. Review Under the Paperwork Reduction Act

No new collection of information is imposed by this interim final rule. Accordingly, no clearance by the Office of Management and Budget is required under the Paperwork Reduction Act (44 U.S.C. 3501 *et seq.*).

D. Review Under the National Environmental Policy Act

Under the Council ou Environmental Quality regulations (40 CFR Parts 1500–1508), DOE has established guidelines for its compliance with the provisions of the National Environmental Policy Act of 1969 (42 U.S.C. 4321 *et seq.*). This interim final rule establishes procedures for real property transfers for economic development. Because the rule is procedural, it is covered by the Categorical Exclusion in paragraph A6 of Appendix A to Subpart D, 10 CFR Part 1021. Accordingly, neither an environmental assessment nor an environmental impact statement is required. As paragraph 770.3(b) of the rule notes, individual proposals for the transfer of property are subject to appropriate NEPA review.

E. Review Under Executive Order 13132

Executive Order 13132, "Federalism," 64 FR 43255 (August 4, 1999), requires that regulations, rules, legislation, and any other policy actions be reviewed for any substantial direct effects on states, on the relationship between the federal government and the states, or in the distribution of power and responsibilities among the various levels of government. DOE has analyzed this rulemaking in accordance with the principles and criteria contained in Executive Order 13132, and has determined that this rule will not have a substantial direct effect on states, the established relationship between the states and the federal government or the distribution of power and responsibilities among the various levels of government.

F. Review Under Executive Order 12988

With respect to the review of existing regulations and the promulgation of new regulations, section 3(a) of Executive Order 12988, "Civil Justice Reform," 61 FR 4729 (February 7, 1996), imposes on federal agencies the general duty to adhere to the following requirements: (1) Eliminate drafting errors and ambiguity; (2) write regulations to minimize litigation; and (3) provide a clear legal standard for affected conduct rather than a general standard and promote simplification and burden reduction. Section 3(b) of Executive Order 12988 specifically requires that Executive agencies make every reasonable effort to ensure that the regulation: (1) Clearly specifies the preemptive effect, if any; (2) Clearly specifies any effect on existing federal law or regulation; (3) provides a clear legal standard for affected conduct while promoting simplification and burden reduction; (4) specifies the retroactive effect, if any; (5) adequately defines key terms; and (6) addresses other important issues affecting clarity and general draftsmanship under any guidelines issued by the Attorney General. Section 3(c) of Executive Order 12988 requires Executive agencies to review regulations in light of applicable standards in section 3(a) and section 3(b) to determine whether they are met or it is unreasonable to meet one or more of them. DOE has completed the required review and determined that this interim final rule meets the relevant standards of Executive Order 12988.

G. Review Under the Unfunded Mandates Reform Act of 1995

Title II of the Unfunded Mandates Reform Act of 1995 (Pub. L. No. 104–4) requires each federal agency to prepare a written assessment of the effects of any federal mandate in a proposed or final rule that may result in the expenditure by state, local, and tribal governments, in the aggregate, or by the private sector, of $100 million in any one year. The Act also requires a federal agency to develop an effective process to permit timely input by elected officers of state, local, and tribal governments on a proposed "significant intergovernmental mandate," and it requires an agency to develop a plan for giving notice and opportunity for timely input to potentially affected small governments before establishing any requirement that might significantly or uniquely affect small governments. The interim final rule published today does not contain any federal mandate, so these requirements do not apply.

H. Review Under the Treasury and General Government Appropriations Act of 1999

Section 654 of the Treasury and General Government Appropriations Act, 1999 (Pub. L. 105–277) requires federal agencies to issue a Family Policymaking Assessment for any

proposed rule or policy that may affect family well-being. Today's proposal would not have any impact on the autonomy or integrity of the family as an institution. Accordingly, DOE has concluded that it is not necessary to prepare a Family Policymaking Assessment.

I. Congressional Notification

As required by 5 U.S.C. 801, DOE will submit to Congress a report regarding the issuance of today's interim final rule prior to the effective date set forth at the outset of this notice. The report will state that it has been determined that the rule is not a "major rule" as defined by 5 U.S.C. 801(2).

List of Subjects in Part 770

Federal buildings and facilities, Government property, Government property management, Hazardous substances.

Issued in Washington, on January 21, 2000.

Edward R. Simpson,

Acting Director of Procurement and Assistance Management.

For the reasons set forth in the preamble, Title 10, Chapter III, of the Code of Federal Regulations is amended by adding a new part 770 as set forth below:

PART 770—TRANSFER OF REAL PROPERTY AT DEFENSE NUCLEAR FACILITIES FOR ECONOMIC DEVELOPMENT

Sec.

Authority: 42 U.S.C. 7274q.

§ 770.1 What is the purpose of this part?

(a) This part establishes how DOE will transfer by sale or lease real property at defense nuclear facilities for economic development.

(b) This part also contains the procedures for a person or entity to request indemnification for any claim that results from the release or threatened release of a hazardous substance or pollutant or contaminant as a result of DOE activities at the defense nuclear facility.

§ 770.2 What real property does this part cover?

(a) DOE may transfer DOE-owned real property by sale or lease at defense nuclear facilities, for the purpose of permitting economic development.

(b) DOE may transfer, by lease only, improvements at defense nuclear facilities on land withdrawn from the public domain, that are excess, temporarily underutilized, or underutilized, for the purpose of permitting economic development.

§ 770.3 What general limitations apply to this part?

(a) Nothing in this part affects or modifies in any way section 120(h) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (42 U.S.C. 9620(h)).

(b) Individual proposals for transfers of property are subject to NEPA review as implemented by 10 CFR Part 1021.

(c) Any indemnification agreed to by the DOE is subject to the availability of funds.

§ 770.4 What definitions are used in this part?

Community Reuse Organization or CRO means a governmental or non-governmental organization that represents a community adversely affected by DOE work force restructuring at a defense nuclear facility and that has the authority to enter into and fulfill the obligations of a DOE financial assistance agreement.

Claim means a request for reimbursement of monetary damages.

Defense Nuclear Facility means "Department of Energy defense nuclear facility" within the meaning of section 318 of the Atomic Energy Act of 1954 (42 U.S.C. 2286g).

DOE means the United States Department of Energy.

DOE Field Office means any of DOE's officially established organizations and components located outside the Washington, D.C., metropolitan area. (See Field Office Manager.)

Economic Development means the use of transferred DOE real property in a way that enhances the production, distribution, or consumption of goods and services in the surrounding region(s) and furthers the public policy objectives of the laws governing the downsizing of DOE's defense nuclear facilities.

Excess Real Property means any property under DOE control that the Field Office, cognizant program, or the Secretary of Energy have determined, according to applicable procedures, to be no longer needed.

Field Office Manager means the head of the DOE Operations Offices or Field Offices associated with the management and control of defense nuclear facilities.

Hazardous Substance means a substance within the definition of "hazardous substances" in subchapter I of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) (42 U.S.C. 9601(14)).

Indemnification means the responsibility for reimbursement of payment for any suit, claim, demand or action, liability, judgment, cost, or other fee arising out of any claim for personal injury or property damage, including business losses consistent with generally accepted accounting practices, which involve the covered real property transfers. Indemnification payments are subject to the availability of appropriated funds.

Person or Entity means any state, any political subdivision of a state or any individual person that acquires ownership or control of real property at a defense nuclear facility.

Pollutant or Contaminant means a substance identified within the definition of "pollutant or contaminant" in section 101(33) of CERCLA (42 U.S.C. 9601(33)).

Reol Property means all interest in land, together with the improvements, structures, and fixtures located on the land (usually including prefabricated or movable structures), and associated appurtenances under the control of any federal agency.

Release means a "release" as defined in subchapter I of CERCLA (42 U.S.C. 9601(22)).

Underutilized Real Property or Temporarily Underutilized Real Property means the entire property or a portion of the real property (with or without improvements) that is used only at irregular intervals, or which is used by current DOE missions that can be satisfied with only a portion of the real property.

§ 770.5 How does DOE notify persons and entities that defense nuclear facility real property is available for transfer for economic development?

(a) Field Office Managers annually make available to Community Reuse Organizations and other persons and entities a list of real property at defense nuclear facilities that DOE has identified as appropriate for transfer for economic development. Field Office Managers may use any effective means of publicity to notify potentially-interested persons or entities of the availability of the list.

(b) Upon request, Field Office Managers provide to interested persons and entities relevant information about listed real property, including information about a property's physical condition, environmental, safety and health matters, and any restrictions or terms of transfer.

§ 770.6 May interested persons and entities request that real property at defense nuclear facilities be transferred for economic development?

Any person or entity may request that specific real property be made available for transfer for economic development pursuant to procedures in § 770.7. A person or entity must submit such a request in writing to the Field Office Manager who is responsible for the real property.

§ 770.7 What procedures are to be used to transfer real property at defense nuclear facilities for economic development?

(a) *Proposal.* The transfer process starts when a potential purchaser or lessee submits to the Field Office Manager a proposal for the transfer of real property that DOE has included on a list of available real property, as provided in § 770.5 of this part.

(1) A proposal must include (but is not limited to):

(i) A description of the real property proposed to be transferred;

(ii) The intended use and duration of use of the real property;

(iii) A description of the economic development that would be furthered by the transfer (*e.g.*, jobs to be created or retained, improvements to be made);

(iv) Information supporting the economic viability of the proposed development; and

(v) The consideration offered and any financial requirements.

(2) The person or entity should state in the proposal whether it is or is not requesting indemnification against claims based on the release or threatened release of a hazardous substance or pollutant or contaminant resulting from DOE activities.

(3) If a proposal for transfer does not contain a statement regarding indemnification, the Field Office Manager will notify the person or entity by letter of the potential availability of indemnification under this part, and will request that the person or entity either modify the proposal to include a request for indemnification or submit a statement that it is not seeking indemnification.

(b) *Decision to transfer real property.* Within 90 days after receipt of a proposal, DOE will notify, by letter, the person or entity that submitted the proposal of DOE's decision whether or not a transfer of the real property by sale or lease is in the best interest of the Government. If DOE determines the transfer is in the Government's best interest, then the Field Office Manger will begin development of a transfer agreement.

(c) *Congressional committee notification.* DOE may not transfer real property under this part until 30 days have elapsed after the date DOE notifies congressional defense committees of the proposed transfer. The Field Office Manager will notify congressional defense committees through the Secretary of Energy.

(d) *Transfer.* After the congressional committee notification period has elapsed, the Field Office Manager:

(1) Finalizes negotiations of a transfer agreement, which must include a provision stating whether indemnification is or is not provided;

(2) Ensures that any required environmental reviews have been completed; and

(3) Executes the documents required for the transfer of property to the buyer or lessee.

§ 770.8 May DOE transfer real property at defense nuclear facilities for economic development at less than fair market value?

DOE generally attempts to obtain fair market value for real property transferred for economic development, but DOE may agree to sell or lease such property for less than fair market value if the statutory transfer authority nsed imposes no market value restriction, and:

(a) The real property requires considerable infrastructure improvements to make it economically viable, or

(b) A conveyance at less than market value would, in the DOE's judgment, further the public policy objectives of the laws governing the downsizing of defense nuclear facilities.

§ 770.9 What conditions apply to DOE indemnification of claims against a person or entity based on the release or threatened release of a hazardous substance or pollutant or contaminant attributable to DOE?

(a) If an agreement for the transfer of real property for economic development contains an indemnification provision, the person or entity requesting indemnification for a particular claim must:

(1) Notify the Field Office Manager in writing within two years after such claim accrues under § 770.11 of this part;

(2) Furnish the Field Office Manager, or such other DOE official as the Field Office Manager designates, with evidence or proof of the claim;

(3) Furnish the Field Office Manager, or such other DOE official as the Field Office Manager designates, with copies of pertinent papers (*e.g.*, legal documents) received by the person or entity;

(4) If requested by DOE, provide access to records and personnel of the person or entity for purposes of defending or settling the claim; and

(5) Provide certification that the person or entity making the claim did not contribute to any such release or threatened release.

(b) DOE will enter into an indemnification agreement if DOE determines that indemnification is essential for the purpose of facilitating reuse or redevelopment.

(c) DOE may not indemnify any person or entity for a claim if the person or entity contributed to the release or threatened release of a hazardous substance or pollutant or contaminant that is the basis of the claim.

(d) DOE may not indemnify a person or entity for a claim made under an indemnification agreement if the person or entity refuses to allow DOE to settle or defend the claim.

§ 770.10 When must a person or entity, who wishes to contest a DOE denial of request for indemnification of a claim, begin legal action?

If DOE denies the claim, DOE must provide the person or entity with a notice of final denial of the claim by DOE by certified or registered mail. The person or entity must begin legal action within six months after the date of mailing.

§ 770.11 When does a claim "accrue" for purposes of notifying ths Field Office Manager under § 770.9(a) of this part?

For purposes of § 770.9(a) of this part, a claim "accrues" on the date on which the person asserting the claim knew, or reasonably should have known, that the

injury to person or property was caused or contributed to by the release or threatened release of a hazardous substance, pollutant, or contaminant as a result of DOE activities at the defense nuclear facility on which the real property is located.

[FR Doc. 00–4787 Filed 2–24–00; 4:07 pm]

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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. 98–NM–262–AD; Amendment 39–11602; AD 2000–04–19]

RIN 2120–AA64

Airworthiness Directives; Dassault Model Mystere-Falcon 50 Series Airplanes

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final rule.

SUMMARY: This amendment supersedes an existing airworthiness directive (AD), applicable to certain Dassault Model Mystere-Falcon 50 series airplanes, that currently requires a revision to the Limitations section of the FAA-approved Airplane Flight Manual (AFM) to include procedures to use certain values to correctly gauge the minimum allowable N1 speed of the operative engines during operation in icing conditions. This amendment adds a new requirement for operators to adjust the thrust reverser handle stop, install new wiring, and modify the Digital Electronic Engine Control (DEEC) software, which terminates the AFM revision. This amendment is prompted by issuance of mandatory continuing airworthiness information by a foreign civil airworthiness authority. The actions specified by this AD are intended to prevent flightcrew use of erroneous N1 thrust setting information displayed on the Engine Indication Electronic Display (EIED), which could result in in-flight shutdown of engine(s).

DATES: Effective April 4, 2000.

The incorporation by reference of certain publications listed in the regulations is approved by the Director of the Federal Register as of April 4, 2000.

ADDRESSES: The service information referenced in this AD may be obtained from Dassault Falcon Jet, P.O. Box 2000, South Hackensack, New Jersey 07606. This information may be examined at the Federal Aviation Administration (FAA), Transport Airplane Directorate, Rules Docket, 1601 Lind Avenue, SW., Renton, Washington; or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

FOR FURTHER INFORMATION CONTACT: Norman B. Martenson, Manager, International Branch, ANM–116, FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington 98055–4056; telephone (425) 227–2110; fax (425) 227–1149.

SUPPLEMENTARY INFORMATION: A proposal to amend part 39 of the Federal Aviation Regulations (14 CFR part 39) by superseding AD 97–21–16, amendment 39–10202 (62 FR 60773, November 13, 1997), which is applicable to certain Dassault Model Mystere-Falcon 50 series airplanes, was published in the **Federal Register** on November 3, 1999 (64 FR 59685). The action proposed to retain the requirement to revise the Limitations section of the FAA-approved Airplane Flight Manual (AFM) to include procedures to use certain values to correctly gauge the minimum allowable N1 speed of the operative engines during operation in icing conditions, and add a new requirement for adjustment of the thrust reverser handle stop, installation of new wiring, and modification of the Digital Electronic Engine Control (DEEC) software, which would terminate the need for the AFM revision.

Comments

Interested persons have been afforded an opportunity to participate in the making of this amendment. Due consideration has been given to the comments received.

Requests To Revise Applicability

One commenter, the manufacturer, suggests that the applicability be revised to exclude airplanes on which Dassault Factory Modification M2193 has been accomplished. The commenter notes that this modification is equivalent to Dassault Service Bulletin F50–276, dated June 24, 1998 (which was cited in the AD as the appropriate source of service information). The FAA concurs. The actions described in the referenced Dassault service bulletin constitute terminating action for the requirements of this AD; therefore, airplanes on which the service bulletin has been accomplished are excluded in the applicability of the AD. Since Dassault Modification M2193 is equivalent to that service bulletin, the FAA has revised the final rule to also exclude airplanes having this production modification.

The same commenter also requests that the applicability of the proposed AD be revised in regard to the listing of affected airplanes. The commenter notes that the proposed AD applies to "serial numbers 251, 253, and subsequent, equipped with Allied-Signal TFE731–40 engines * * *." The commenter suggests that the applicability be expanded to include any Falcon 50 series airplane retrofitted with Dassault Service Bulletin F50–280 or Dassault Factory Modification 2518, since this service bulletin describes procedures for installation of Allied-Signal TFE731–40 engines on any Model Mystere-Falcon 50 series airplane, including serial numbers prior to 251.

The FAA does not concur. The FAA acknowledges that all airplanes equipped with the referenced engine type should also be subject to the requirements of this AD, if all actions required by this AD have not been accomplished. However, after further discussions with the manufacturer, the FAA has been advised that Dassault Service Bulletin F50–280 is in the process of review, but has not been released, nor has the equivalent Dassault Modification 2518 been approved. The FAA does not consider it appropriate to delay issuance of this final rule while awaiting such approval; therefore, no change is made to the applicability of the AD in this regard. If the engine retrofit service information is approved, the FAA will consider further rulemaking, if necessary, to apply the requirements of this AD to additional airplanes.

Request To Revise Number of Affected Airplanes

The same commenter states that the estimate of 7 affected airplanes is incorrect in the cost impact information of the proposed AD, since other airplanes may have the Allied-Signal TFE731–40 engines installed as a retrofit, as discussed in the previous comment. The FAA infers that the commenter is requesting that the number of affected airplanes be increased. However, since the previously described engine retrofit service information has not been approved, no airplanes on the U.S. Register should have had such a modification at this time. No change to the AD is necessary in this regard.

Request To Revise Cost Estimate

The same commenter states that the estimate of 2 work hours is conservative in that it does not include hours necessary to gain access, remove and replace the unit, and perform engine ground runs and/or flight tests. The

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APPENDIX C

WETLANDS ASSESSMENT

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WETLANDS ASSESSMENT
PROPOSED CONVEYANCE OF PARCEL G
BY THE U.S. DEPARTMENT OF ENERGY
OAK RIDGE, TENNESSEE

Date Issued—February 2007

U.S. Department of Energy
Oak Ridge Office
Oak Ridge, Tennessee

06-179(E)/013007

SCIENCE APPLICATIONS INTERNATIONAL CORPORATION

contributed to the preparation of this document and should not be considered an eligible contractor for its review.

WETLANDS ASSESSMENT
PROPOSED CONVEYANCE OF PARCEL G
BY THE U.S. DEPARTMENT OF ENERGY
OAK RIDGE, TENNESSEE

Date Issued—February 2007

U.S. Department of Energy
Oak Ridge Office
Oak Ridge, Tennessee

06-179(E)/013007

CONTENTS

FIGURES

ABBREVIATIONS AND ACRONYMS

AMSE	American Museum of Science and Energy
CFR	*Code of Federal Regulations*
CWA	Clean Water Act of 1972
DOE	U.S. Department of Energy
ORO	Oak Ridge Office
ORR	Oak Ridge Reservation
TDEC	Tennessee Department of Environment and Conservation
TVA	Tennessee Valley Authority
USACE	U.S. Army Corps of Engineers

1. INTRODUCTION

The U.S. Army Corps of Engineers (USACE) defines wetlands as "those areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (Environmental Laboratory 1987). Wetlands usually include swamps, marshes, bogs, and similar areas. In identifying a wetland, three characteristics must be present. First is the dominance of hydrophytic vegetation (plants that have morphological or physiological adaptations to grow, compete, or persist in anaerobic soil conditions). Second, hydric soils are present and possess characteristics that are associated with reducing (anaerobic or low oxygen) soil conditions. Third, wetland hydrology must be present (i.e., the site must be flooded or saturated for sufficient duration during the growing season to create anaerobic conditions at the site (Environmental Laboratory 1987).

This wetlands assessment has been prepared in accordance with the *Code of Federal Regulations* (*CFR*) Title 10 Part 1022, for the purpose of fulfilling the U.S. Department of Energy's (DOE's) responsibilities under Executive Order 11990, "Wetlands Protection." The order encourages federal agencies to implement measures to preserve and enhance the natural and beneficial functions of wetlands. The order also requires federal agencies to take action to minimize or mitigate the destruction, loss, and degradation of wetlands. The sequence of mitigation measures should emphasize the following:

- avoiding actions in wetlands, including new construction or work, unless there is no practicable alternative to that action; and

- minimizing harm should the only practicable alternative require that any particular action take place in a wetland.

The executive order applies to activities in furtherance of DOE responsibilities for acquiring, managing, and disposing of federal lands and facilities. When property in a wetland is proposed for lease, easement, right-of-way, or disposal to non-federal public or private parties, DOE shall (1) identify those uses that are restricted under federal, state, or local wetlands regulations; (2) attach other appropriate restrictions to uses of the property; or (3) withhold the property from conveyance.

Finally, the executive order seeks to provide early and adequate opportunities for public review of plans and proposals involving new construction or similar projects in wetlands.

This wetlands assessment serves to inform the public of proposed activities at the Oak Ridge Reservation (ORR) that have the potential to affect wetlands on property currently controlled by DOE and to present measures or alternatives to the proposed action that will reduce or mitigate adverse effects to these wetlands. Information is presented on the following topics: project description, site description, effects on wetlands, alternatives, and mitigation.

2. PROJECT DESCRIPTION

2.1 PROPOSED ACTION

This wetlands assessment evaluates the potential impacts to wetlands from the proposed conveyance of Parcel G. Parcel G is one of three parcels being considered for conveyance from DOE to the American Museum of Science and Energy Foundation, city of Oak Ridge, or other managing entity. The other two

parcels are the American Museum of Science and Energy (AMSE) and associated property and Parcel 279.01, neither of which contain wetlands. The potential environmental impacts of the proposed action were considered in an environmental assessment prepared by DOE (DOE 2007). The purpose of the proposed DOE action is to provide a plan for the long-term financial stability of the AMSE to preserve the museum as an asset to the city of Oak Ridge and the surrounding region. The proposed conveyance of the three parcels is also intended to help offset the long-term cost of operating the museum. The purpose of the proposed action is also to convey underutilized DOE-Oak Ridge Office (ORO) real property for economic development to help offset potential economic losses resulting from DOE downsizing, facility closeouts, and work force restructuring.

Because specific uses of Parcel G would not be known prior to the conveyance, DOE has developed reasonably foreseeable scenarios and uses to bound the impacts analysis. Scenarios identify potential tenants; utilities and infrastructure; areas to be excluded from development; and a range of emissions, effluents, and wastes that could result from commercial and industrial activities. It is anticipated that the city of Oak Ridge would develop portions of Parcel G for small-scale offices, light industrial use, or retail businesses.

2.2 PROJECT LOCATION

Parcel G contains about 21 acres and is located southeast of the intersection of Bethel Valley and Scarboro roads (Fig. 1). A portion of Parcel G is within the area of the Oak Ridge Institute of Science and Energy Scarboro Operations Site (formerly the South Campus Facility). The Scarboro Operations Site supported research on the biological effects of radionuclides on animals. The portion of Parcel G that is within the boundary of the Scarboro Operations Site was an area where only unexposed animals were housed or grazed. In addition to pasture, the area contained various barns and a three-tiered swine waste treatment pond system. Only one barn structure remains within Parcel G. Nearby land uses include the Y-12 Security Complex buffer area, Bethel Valley Industrial Park, Commerce Park, and the University of Tennessee Forest Experiment Station and Arboretum. Parcel G is currently zoned by the city of Oak Ridge as FIR (Federal Industry and Research).

2.3 WETLANDS AT PARCEL G

Parcel G and the adjacent DOE property to the south support a palustrine emergent/scrub-shrub wetland system along Scarboro Creek totaling approximately 3.4 acres (Rosensteel 1993). The portion of this wetland system that is located within the boundary of Parcel G is about 1.0 acre. All wetlands identified at Parcel G exhibited positive field indicators of the wetland criteria: hydrophytic plants, hydric soils, and wetland hydrology. The majority of these wetlands are associated with the floodplain of Scarboro Creek, the Scarboro Creek embayment (part of Melton Hill Reservoir), and two beaver ponds in Scarboro Creek immediately south of Parcel G (Fig. 2).

In addition to the Scarboro Creek wetlands, there are three ponds that were created to treat swine waste when Parcel G was actively associated with operation of the Scarboro Operations Site. Agricultural use of the ponds ceased in the mid-1980s and all three ponds have remained at the site. Two of the ponds remain permanently inundated. The third pond only holds water for relatively short periods and supports a wetland plant community.

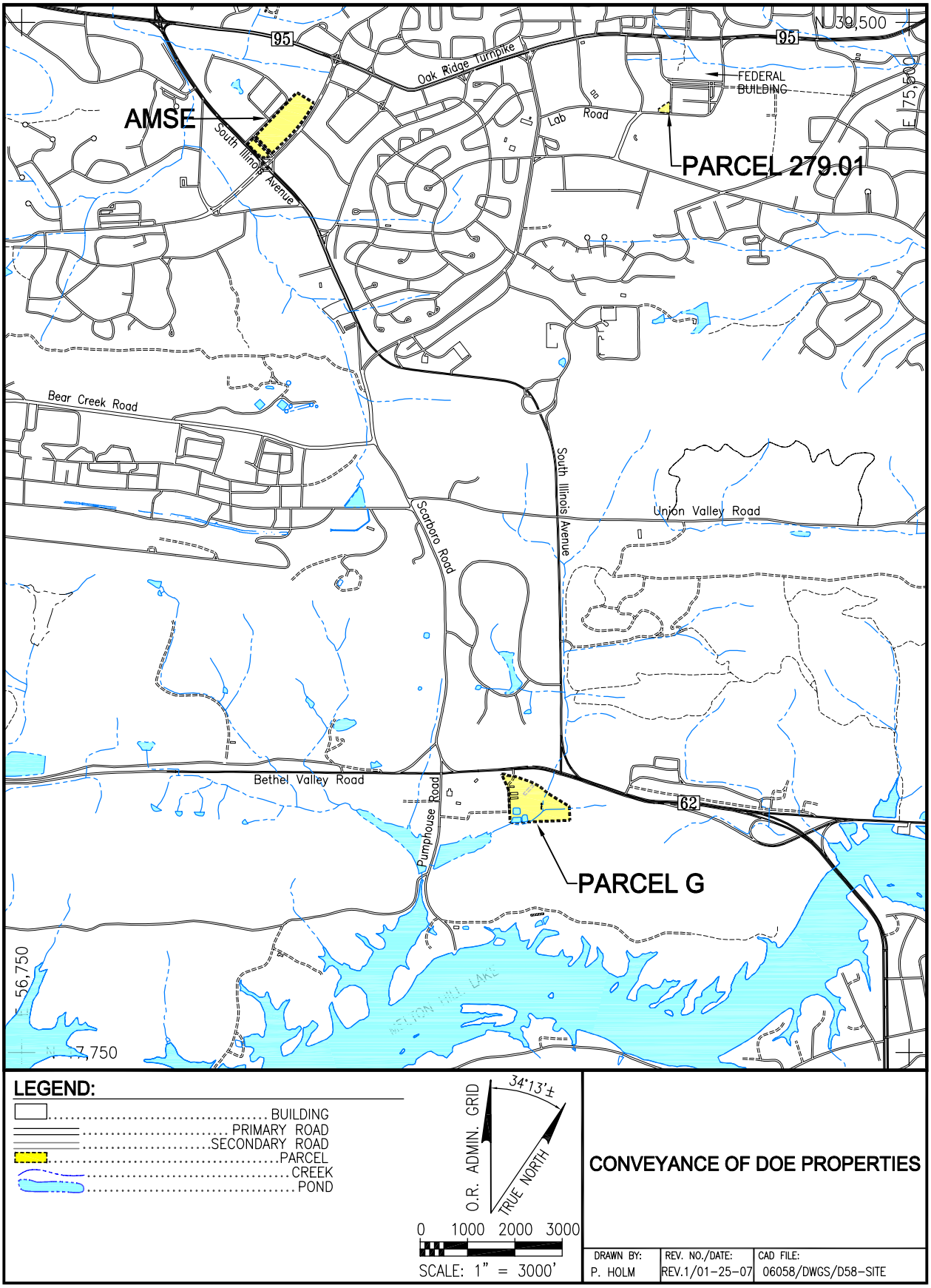

Fig. 1. Vicinity map for Parcel G.

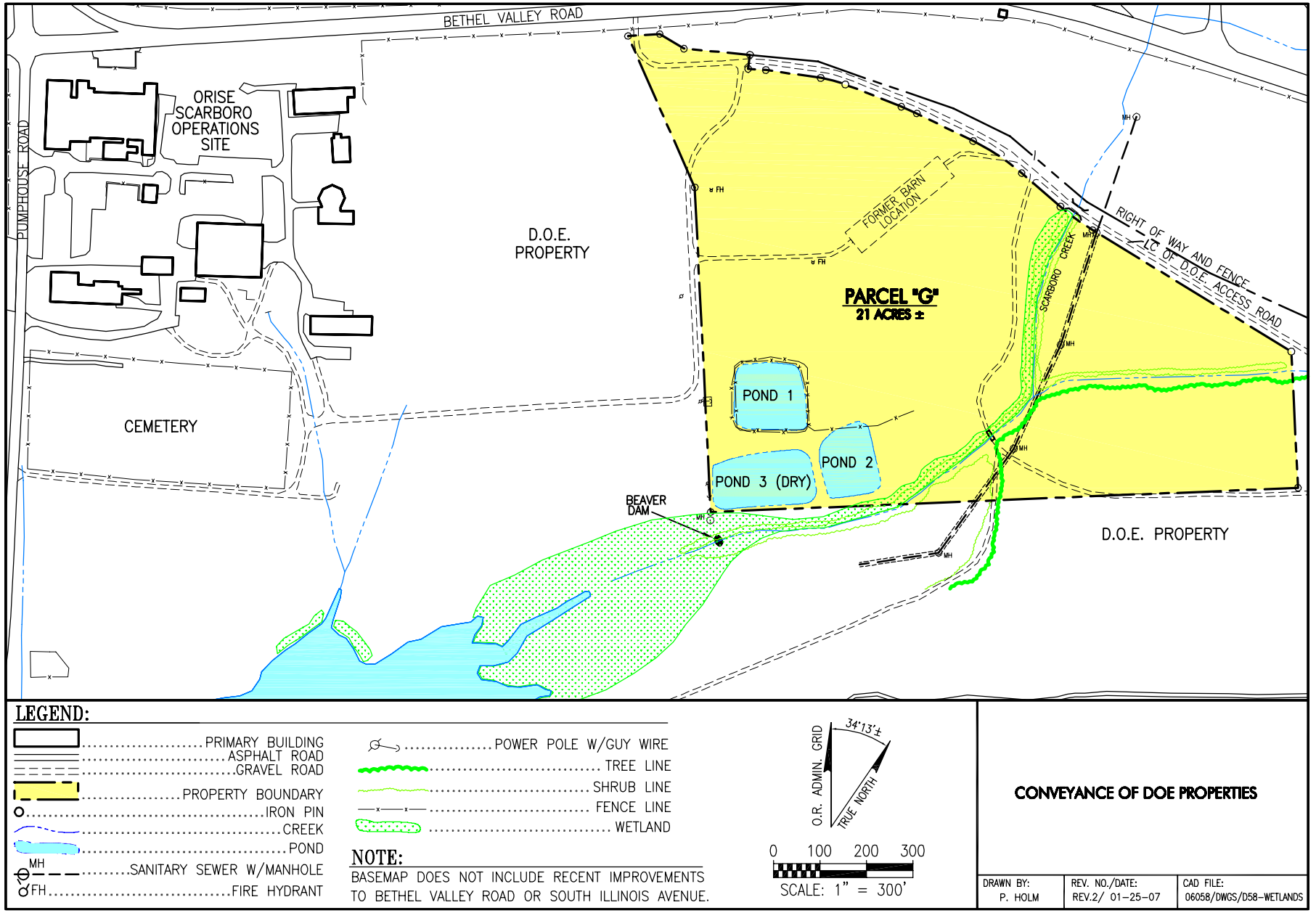

Fig. 2. Wetlands at Parcel G.

2.3.1 Scarboro Creek Wetlands

Wetlands at Parcel G are located in the floodplain along Scarboro Creek. These wetlands include a mix of persistent and nonpersistent emergent plants and woody plants. Dominant plants include black willow (*Salix nigra*), fowl manna grass (*Glyceria striata*), cattails (*Typha* sp.), softstem bulrush (*Schoenoplectus validus*), soft rush (*Juncus effusus*), curly dock (*Rumex crispus*), horsetail (*Equisetum* sp.), spotted jewelweed (*Impatiens capensis*), hog peanut (*Amphicarpaea bracteata*), Joe-Pye-weed (*Eupatoriadelphus* sp.), and peppermint (*Mentha* X *piperita*).

Indicators of wetland hydrology include saturated soils in the upper 12-in, drift lines, drainage patterns in wetlands, and oxidized root channels with live roots in the upper 12 in. The primary source of wetland hydrology is overbank flooding from Scarboro Creek and a seasonally high water table. Secondary sources of water are abundant groundwater seeps adjacent to the floodplain and seepage from the old swine waste ponds. Soils in the riparian wetlands consist of sandy loams, silt loams, and clay loams. Indicators of wetland soils included soil matrix colors with low chroma colors (1 or 2), mottles with higher chromas, and manganese concretions.

2.3.2 Swine Waste Ponds

Two of the swine waste ponds (Ponds 1 and 2, 0.47 acre and 0.38 acre, respectively) are permanently inundated and support little if any wetland vegetation. They would possibly be subject to regulation as waters of the state but they are not wetlands. Pond 3 (0.56 acre) only holds water seasonally and a wetland community consisting of persistent and nonpersistent emergent and woody wetland plants has colonized the site. Dominant vegetation includes scattered black willow saplings, some unidentified sedges (*Carex* sp.), woolgrass (*Scirpus cyperinus*), soft rush, and smartweed (*Polygonum* sp.). Indicators of wetland hydrology include periodic prolonged inundation and saturated soils in the upper 12 in. The primary source of wetland hydrology is probably direct precipitation and surface runoff. Secondary sources of water are probably seepage from the other two swine waste ponds. The ponds have no direct connection to Scarboro Creek (DOE 2002).The soils at the Pond 3 wetland were not examined intrusively.

2.3.3 Scarboro Creek Embayment Wetlands

Wetlands around the Scarboro embayment include emergent and wet meadow wetlands. Dominant species include various herbaceous species with a mix of woody plants. Emergent wetlands occur in areas that are saturated or inundated most of the year. Dominant plants include softstem bulrush, soft rush, and fowl manna grass. Indicators of wetland hydrology include inundation and saturation in the upper 12 in of soil. The primary source of wetland hydrology is a high water table resulting from lake levels, Melton Hill Reservoir, and recent beaver activity. Hydrology in these wetlands has been altered by beavers. There are several beaver dams on Scarboro Creek between Parcel G and the lake. Secondary sources of water are occasional overbank flooding of Scarboro Creek and groundwater seeps in the floodplain. Soils in the wetlands consist of gray (10 YR 5/1) and light grayish brown (10 YR 5/2) silt loams and clay loams with reddish mottles, manganese nodules, and oxidized root channels.

Wet meadow wetlands around Scarboro Creek embayment are dominated by nonpersistent emergent plants and scattered woody plants. Dominant herbaceous plant species are several unidentified grasses [most likely fescue (*Festuca arundinacea*) and redtop (*Agrostis alba*)] that have invaded from adjacent fields, hog peanut, Joe-Pye-weed, soft rush, peppermint, monkeyflower (*Mimulus ringens*), bugleweed (Lycopus americanus), jewelweed, and several unidentified sedges, including fox sedge (*Carex vulpinoidea*). Woody species include black willow, green ash (*Fraxinus pennsylvanica*), sweetgum (*Liquidambar styraciflua*), alder (*Alnus serrulata*), and Japanese honeysuckle (*Lonicera japonica*).

Hydrology in the wet meadows is tied closely to water levels in the Scarboro embayment and supplemented by occasional inundation from stormwater runoff. Soils in the wetlands consist of gray (10 YR 5/1) and light grayish brown (10 YR 5/2) silt loams and clay loams with reddish mottles, manganese nodules, and oxidized root channels.

2.4 WETLAND FUNCTIONS AND CLASSIFICATION

Wetlands perform many biological, chemical, hydrological, and physical functions generally recognized as being valuable to society (Adamus et al. 1991, Brinson 1993). Some commonly recognized wetland functions include groundwater discharge, floodflow alteration (flood storage), sediment stabilization, sediment/toxicant retention, nutrient removal/transformation, aquatic diversity, and wildlife diversity. Not all wetlands perform all functions, and not all wetlands perform the same function equally well. The ability of wetlands to perform various functions depends on the characteristics of the wetland and the magnitude of the inputs.

The wetlands at Parcel G perform various biological, chemical, hydrological, and physical functions. In the past, these wetlands have been heavily impacted by past disturbance at the site. Most of this disturbance occurred 20 or more years ago while the site was associated with the Scarboro Operations Site. After much of the early research at the Scarboro Operations Site ceased, the natural functions of the wetlands and Scarboro Creek began to recover and to improve. However, some disturbances have been more recent. After almost two decades of recovery, the recent realignment of South Illinois Avenue and Bethel Valley Road caused a great deal of new disturbance to Scarboro Creek and its wetlands. Following completion of the road construction, the creek and wetlands once again have begun to stabilize and a new period of recovery from the recent disturbance has started.

3. WETLANDS EFFECTS

3.1 POTENTIAL EFFECTS ON WETLANDS

The proposed conveyance of Parcel G would not inherently cause impacts that affect the survival, quality, natural, and beneficial values of wetlands at the site, because the proposed conveyance is an administrative action. The potential for, and degree of, adverse impacts would depend upon how Parcel G was developed. Activities associated with subsequent development of Parcel G could have beneficial effects or adverse effects on wetlands. Effects on wetlands may result from activities occurring directly in wetlands or effects may result indirectly from activities that occur in areas adjacent to wetlands. The consequences of wetland alteration may last for decades (long-term effects) or they may be minor enough that wetlands could recover in a few years (short-term effects).

Any activity that has the potential to affect wetlands in any way would be subject to regulation by the federal and/or state government. The entity that develops Parcel G would be required to comply with applicable federal, state, and local laws, rules, or ordinances governing land use in wetlands and streams. It would be the responsibility of that entity to secure all necessary permits and to comply with all permit requirements, including compensatory mitigation. This language would be incorporated into the DOE real estate instrument.

3.1.1 Positive Effects

Beneficial impacts include any actions that would improve the quality of wetlands or actions that enhanced the ability of wetlands to perform wetland functions. Examples of beneficial actions include

restoring or enhancing wetland hydrology to increase the hydroperiod in wetlands, planting additional species of wetland plants to increase diversity or structure, and controlling or eradicating exotic, invasive plants in wetlands. These types of activities may or may not occur as a result of implementing either the proposed action or the no action alternative.

3.1.2 Negative Effects

Negative impacts include any activity that adversely affects the survival, quality, natural, and beneficial values of wetlands. Negative effects would result from any action that eliminates or interferes with wetlands at Parcel G or reduces their ability to perform their normal biological, chemical, hydrological, and physical functions. Some or all of the wetlands could potentially experience negative impacts caused by future development of Parcel G. Any activities that would occur within wetlands and that could cause adverse effects to normal wetland functions would require prior authorization from regulatory agencies.

3.1.3 Direct Effects

Direct effects would result from any activity that occurs directly in a wetland and affects wetland characteristics or functions. Direct effects may be negative or adverse if they eliminate, interfere with, or reduce normal wetland functions. The most extreme example of direct adverse effects to wetlands would involve filling wetlands during site preparation or construction activities or draining wetlands by installing culverts or ditches to remove water. Direct effects may be positive if they restore or improve existing wetland functions. Examples of positive direct effects on wetlands would include any of the restoration activities described in Sect. 3.1.1.

3.1.4 Indirect Effects

Indirect impacts could result from tenant activities in areas adjacent to wetlands that interfere with wetland functions. Examples of indirect adverse impacts include siltation from soil erosion at nearby construction sites, spills or leaks of oil or other chemicals from construction equipment, overuse of pesticides or herbicides, and allowing invasive, exotic plant pest species to colonize wetlands, thereby diminishing the diversity and quality of wetland habitat. Examples of indirect positive impacts include controlling soil erosion, controlling or preventing spills or leaks of oil or other chemicals from construction equipment, using pesticides or herbicides safely to prevent contamination and mortality to wetland plants or animals, and controlling or eradicating invasive, exotic plant pest species to protect diversity and habitat quality.

3.1.5 Long-Term Effects

Long-term effects include any activities that influence wetland functions for several years or decades. Adverse long-term effects would include any activities (e.g., draining or filling) that damage wetland functions such that it would take several years or decades for wetland functions to recover to their pre-disturbance level. Adverse long-term effects are of sufficient magnitude and intensity that site resources may not recover without intervention (restoration). Long-term positive effects would include activities that provided permanent protection or stewardship of wetland functions or habitat.

3.1.6 Short-Term Effects

Short-term effects include any activities that have relatively minor impacts on wetland functions. An example of a short-term negative effect would be removal of woody vegetation from a wetland. Cutting back woody plants in a wetland would temporarily affect structure, but sprouts from cut stems would reestablish structure in a year or two. The recovery period for adverse short-term effects may take several weeks or months to a few years. Short-term disturbances are generally not severe enough to cause

permanent impairment of wetland functions and values. Site resources can usually recover in a short period of time without assistance. The duration of the recovery period depends on the magnitude of disturbance. Positive short-term effects include any activities that may have a temporary influence in wetlands. An example of a positive short-term effect could be one-time removal of invasive, exotic vegetation from a wetland without considering follow-up treatments to control resprouting or new seedlings from seed germination.

4. ALTERNATIVES

4.1 THE NO ACTION ALTERNATIVE

Under the no action alternative, Parcel G would not be conveyed and would remain as part of the ORR. Ongoing, routine maintenance and mowing activities, and current activities associated with the adjacent Scarboro Operations Site would continue. These uses would continue until another proposal for use of Parcel G was considered. No additional impacts to the wetlands at Parcel G would occur and it is expected that the wetland system associated with Scarboro Creek on Parcel G would continue to exist and function as it presently does.

4.2 MITIGATION

Any actions that take place in wetlands and other special aquatic sites at Parcel G are subject to regulation by USACE, the Tennessee Department of Environment and Conservation (TDEC), Division of Water Pollution Control, and possibly the Tennessee Valley Authority (TVA). USACE regulates activities in wetlands and other special aquatic sites through Sect. 404 of the Clean Water Act of 1972 (CWA). The state of Tennessee also regulates activities in wetlands under Sect. 401 of the CWA and the Tennessee Water Quality Control Act of 1977 (Tennessee Administrative Code 69-3-108). TVA regulates all construction, operation, or maintenance of structures affecting navigation, flood control, or public lands or reservations in the Tennessee River or its tributaries under Sect. 26a of the TVA Act (U.S. Congress, 1933, as amended). Anyone who wishes to discharge dredged or fill material into the waters of the United States, regardless of whether on private or public property, must obtain a Sect. 404 permit from the USACE and a Sect. 401 Water Quality Certification from the state prior to taking the action. In cases where TVA lands or waters may be affected, TVA and USACE would determine which agency would be the lead regulatory agency. State and federal storm water regulations to minimize erosion and sedimentation would also need to be met.

In general, TDEC has lower thresholds for disturbance to wetlands and other waters of the state than USACE. In some cases, USACE may determine that it does not have jurisdiction over activities that would affect certain types of wetlands. In these situations, TDEC would serve as the lead regulatory agency. The sequencing for regulatory review by USACE and TDEC and/or TVA requires applicants to make all efforts to avoid adverse impacts to wetlands if possible, minimize adverse impacts, and compensate for adverse impacts after making all practicable effort to avoid and minimize them. Compensatory requirements depend on the quality of the affected wetlands, the type and degree of impact, and the region of the state where the impact would occur. Compensation mitigation usually includes restoring, enhancing, or preserving wetlands. Compensatory requirements generally must be negotiated with USACE, TVA, and TDEC on a case-by-case basis.

4.2.1 Avoidance

Avoidance means that DOE would take steps to prevent new owners from engaging in any activity that would have adverse impacts on wetlands at Parcel G. The simplest way to achieve avoidance is through administrative controls such as conservation easements or other real estate instruments that preclude access to wetlands. This can be accomplished by (1) withholding wetlands from conveyance (some or all); (2) prohibiting development in wetlands (some or all); (3) mitigation specifically in the form of minimum grading requirements, runoff controls, and protection of ecologically sensitive areas; and (4) other restrictions on future uses of any transferred property. For administrative controls to be effective, wetland boundaries should be surveyed and marked in the field prior to transfer; appropriate restrictions would be placed in deeds, maps, and plats; appropriate buffer zones would be defined and required; and tenants could be prohibited from construction activities that have adverse direct or indirect effects on wetlands. Periodic inspections or monitoring may be required to ensure that all administrative controls are implemented and functioning as intended.

4.2.2 Minimization

Minimization means restricting actions that would adversely affect wetlands to the absolute minimum required for the project to continue. Minimization could include reducing areas of impact in wetlands and implementing best management practices and sediment controls that reduced or prevented soil erosion and runoff from construction sites; use of buffer zones around wetlands; and minimum grading requirements that reduced land disturbance on steep slopes adjacent to wetlands and streams.

4.2.3 Compensation

Compensation may be used as a mitigative measure when no practicable alternative exists to avoid or minimize disturbance in wetlands. Compensation may require creation of new wetlands, restoration of drained wetlands, preservation of unique wetlands, or enhancement of degraded wetlands. Most regulatory agencies prefer that compensatory mitigation occur in the same watershed as the permitted action. However, specific requirements for compensatory mitigation are subject to negotiation.

Current USACE and TDEC policy favors restoration, because restoration projects are generally more successful than creation, and enhancement or preservation only affect existing wetlands. In some cases, preservation or enhancement may be used with approval of the regulatory agency. Wetland creation is usually the least desirable form of compensation because of limited success rates. Wetland mitigation banks offer developers another option for wetland mitigation. Developers may purchase credits in large-scale restoration projects, thus allowing them the opportunity to accomplish their mitigation goals without having to worry about post-mitigation monitoring.

4.2.4 Regulatory Permits

All proposed activities on parcels proposed for transfer that would affect wetlands or other waters of the United States or state of Tennessee would be subject to compliance with all applicable local, state, and federal regulations. It would be the responsibility of the new owner to secure all applicable permits prior to initiating work in any wetlands. Permit conditions would stipulate which activities could occur in or around wetlands on transferred parcels. Regulatory permits would also specify all required mitigative measures, including compensation.

5. SUMMARY AND CONCLUSIONS

DOE proposes to convey approximately 21 acres of Parcel G to the American Museum of Science and Energy Foundation, city of Oak Ridge, or other managing entity. Following the conveyance, it is anticipated that portions of Parcel G would be developed for light industrial and/or other commercial purposes.

There is a 3.4-acre wetland system along Scarboro Creek on Parcel G and adjacent property to be retained by DOE. The actual area of wetlands to be conveyed with Parcel G is about 1.0 acre. DOE would retain control over the remaining 2.4 acres of wetlands along Scarboro Creek downstream from Parcel G. The 1.4 acres of ponds on Parcel G could be subject to federal and/or state jurisdiction. Coordination with USACE and TDEC would likely be required to make a final jurisdictional determination.

The proposed conveyance of Parcel G would not inherently cause adverse impacts that affected the survival, quality, natural, and beneficial values of wetlands along Scarboro Creek, because the proposed transfer is an administrative action. Rather, the potential for, and degree of, adverse impacts would depend upon how the property was developed. Adverse impacts would include any activity that eliminated or reduced the ability of wetlands to perform their normal biological, chemical, hydrological, and physical functions. Some or all of the wetlands associated with Scarboro Creek could potentially experience direct impacts by development in the wetlands themselves or indirect impacts from other activities associated with development of adjacent upland areas at Parcel G. Wetlands downstream from Parcel G could also be affected by any construction activities on Parcel G.

A number of administrative controls, including deed restrictions or conservation easements are available for DOE to use to prevent adverse impacts to wetlands at Parcel G. Proposals for development of Parcel G that would affect wetlands and other special aquatic resources would also be subject to regulation by USACE, TDEC, and possibly TVA. Proposed projects would be required to follow normal sequencing during regulatory review to avoid and minimize adverse impacts to wetlands at Parcel G. Compensatory mitigation should be used as a last resort and would be subject to negotiation between USACE, TDEC, and possibly DOE and TVA.

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U.S. Congress 1933, as amended.

APPENDIX D

BIOLOGICAL ASSESSMENT

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Endangered Species Act

BIOLOGICAL ASSESSMENT

Proposed Transfer of Parcel G by the

U.S. Department of Energy

to the City of Oak Ridge, Tennessee

Prepared by
Michael D. Deacon
James P. Groton
Science Applications International Corporation

U.S. Department of Energy
Oak Ridge Operations Office
Oak Ridge, Tennessee 37831

March 2002

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BIOLOGICAL ASSESSMENT FOR THREATENED AND ENDANGERED SPECIES UNDER SECTION 7 OF THE ENDANGERED SPECIES ACT FOR THE PROPOSED TRANSFER OF PARCEL G BY THE U.S. DEPARTMENT OF ENERGY TO THE CITY OF OAK RIDGE, TENNESSEE

SUMMARY

This biological assessment (BA) assesses the potential for adverse effects on two federally listed animal species that could result from the transfer of Parcel G by the U.S. Department of Energy (DOE) to the city of Oak Ridge in the Scarboro Creek watershed on the Oak Ridge Reservation. The species discussed in this BA are those mentioned in a letter from the U.S. Fish and Wildlife Service (FWS) to DOE, dated December 19, 2001, regarding the preparation of an environmental assessment for the proposed transfer of the American Museum of Science and Energy, Parcel 279.01, and Parcel G to the city of Oak Ridge in Anderson County, Tennessee (FWS 2001). The FWS determined that the gray bat (*Myotis grisescens*) and the Indiana bat (*Myotis sodalis*) might occur on or near the Parcel G property. Both species are federally listed as endangered.

Based on the information presented in this BA, DOE concludes that the proposed transfer of Parcel G to the city of Oak Ridge is not likely to adversely affect either of the listed species. Neither species appears likely to be present on Parcel G, and proposed or designated critical habitats for the species are not present on or near the parcel. No caves or other suitable hibernacula or roosting habitat for gray bats are present at Parcel G. However, caves that could provide potential roosting habitat for the gray bat are present within 4 miles of Parcel G. Although the ultimate use of Parcel G by the city of Oak Ridge may eventually require removal of trees, potential summer roosting habitat at the site is at best marginal for Indiana bats. Also, there are adequate numbers of suitable and potentially suitable roost trees available immediately adjacent to Parcel G. Scarboro Creek within Parcel G is not considered to be good foraging habitat for gray or Indiana bats since it is a narrow, small stream with limited riparian habitat. In addition, the Clinch River, Melton Hill Lake, and lower Scarboro Creek, located adjacent to Parcel G, provide additional suitable foraging habitat for both species.

INTRODUCTION AND PROJECT DESCRIPTION

The proposed action evaluated in the environmental assessment is the U.S. Department of Energy (DOE) conveyance of the American Museum of Science and Energy (AMSE), Parcel G, and Parcel 279.01 to the city of Oak Ridge, Tennessee (DOE 2002). The purpose of the proposed DOE action is to provide a plan for the long-term financial stability of the AMSE in order to preserve the museum as an asset to the city of Oak Ridge and the surrounding region. The purpose of the proposed action is also to transfer excess DOE-Oak Ridge Operations Office real property for economic development in order to help offset potential economic losses resulting from DOE downsizing, facility closeouts, and work force restructuring.

Since specific uses of Parcel G would not be known prior to the transfer, DOE has developed reasonably foreseeable scenarios and uses to bound the impacts analysis. Scenarios identify potential tenants; utilities and infrastructure; areas to be excluded from development; and a range of emissions, effluents, and wastes that could result from commercial and industrial activities. Parcel G may be developed for small-scale offices, light industrial use, or retail businesses.

ECOLOGICAL DESCRIPTION OF THE SITE

Parcel G contains about 20.0 acres and is located southeast of the intersection of Bethel Valley and Scarboro roads (Fig. 1). A portion of Parcel G is within the area of the Oak Ridge Institute of Science and Energy Scarboro Operations Site (formerly the South Campus Facility). The Scarboro Operations Site supported research on the biological effects of radionuclides on animals. The portion of Parcel G that is within the boundary of the Scarboro Operations Site was an area where only unexposed animals were housed or grazed. In addition to pasture, the area contained various barns and a three-tiered swine waste treatment pond system. Only one barn structure remains within Parcel G. Nearby land uses include the Y-12 Plant buffer area, Bethel Valley Industrial Park, Commerce Park, and the University of Tennessee Forest Experiment Station and Arboretum. Parcel G is currently zoned by the city of Oak Ridge as F.A.I.R. (Forestry, Agriculture, Industry, and Research District).

Vegetation on more than half of the 20-acre site is maintained in a mix of grasses and herbaceous plants. This part of Parcel G is periodically mowed and has been used in the past for hay production.

Large shrubs and scattered tree saplings dominate three smaller parts of the site. These areas include the buffer around and between the three former swine waste ponds, part of the Scarboro Creek floodplain, and part of the hillside along the south-central property line. Dominant shrub species are autumn-olive (*Elaeagnus umbellata*), multiflora rose (*Rosa multiflora*), and bush honeysuckle (*Lonicera tatarica* or *L. maackii*). Trees include sweetgum (*Liquidambar styraciflua*), green ash (*Fraxinus pennsylvanica*), and black willow (*Salix nigra*) saplings.

Upland woodland habitat is present on the small knoll in the southeastern corner of the site. This part of the site used to be cleared and had fenced holding pens for animals. The area now supports a young woodland composed primarily of boxelder (*Acer negundo*) with scattered black cherry (*Prunus serotina*) and sycamore (*Platanus occidentalis*). Trees in this area are relatively young with a maximum diameter of 5-6 in. at breast height (4.5 ft). There are areas of closed canopy and partially open canopy in the woodland area. The soil surface is firm, with minimal buildup of organic matter. There are no caves or large rock outcrops on the site.

Scarboro Creek flows from north to south across the center of the site. Scarboro Creek is a small, perennial stream. A small, ephemeral stream flows from the east into Scarboro Creek wooded uplands toward the access road. The stream channels of both creeks are well defined, with sand, silt, gravel, and cobbles. Scarboro Creek supports fish and other aquatic life. The floodplain of Scarboro Creek has a small wetland system associated with it, and it is described below.

A palustrine emergent/scrub-shrub wetland (PEM1/PSS1) exists at Parcel G in the floodplain along Scarboro Creek, which crosses the center of the site. The soil is temporarily flooded and saturated. The wetland includes a mix of persistent and nonpersistent emergent plants and woody plants. Dominant plants include black willow, fowl manna grass (*Glyceria striata*), cattails (*Typha* sp.), softstem bulrush (*Schoenoplectus validus*), soft rush (*Juncus effusus*), curly dock (*Rumex crispus*), horsetail (*Equisetum* sp.), spotted jewelweed (*Impatiens capensis*), hog peanut (*Amphicarpaea bracteata*), Joe-Pye-weed (*Eupatoriadelphus* sp.), and peppermint (*Mentha* X *piperita*). The soil consists of sandy loams, silt loams, and clay loams with low chroma matrix color, mottles with brighter chromas, and manganese concretions.

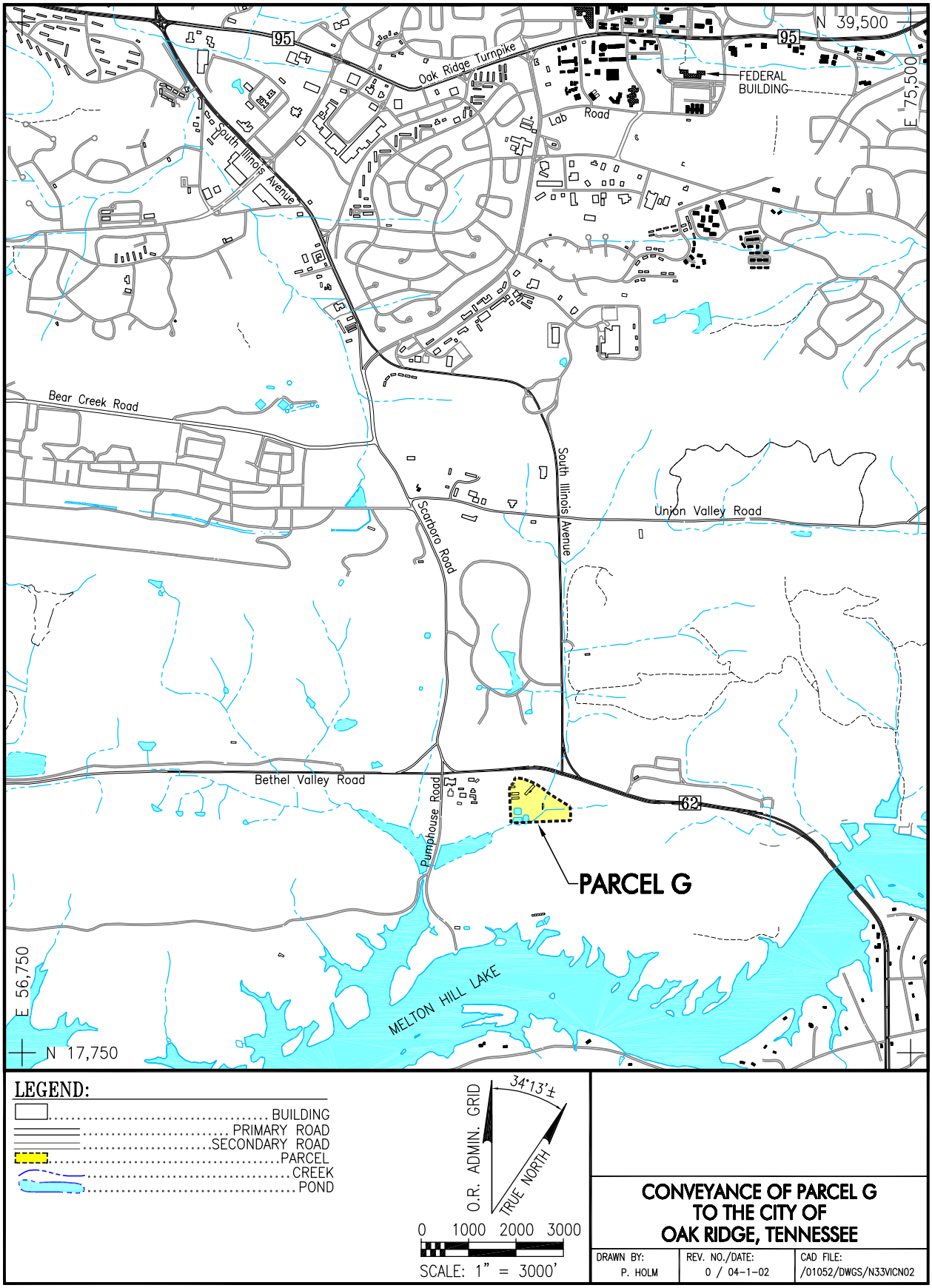

Fig. 1. Vicinity map for Parcel G.

ECOLOGICAL DESCRIPTION AND POTENTIAL IMPACTS OF THE PROJECT ON LISTED SPECIES

The general ecology of the gray bat and Indiana bat and any potential adverse effects on the species from the proposed action are summarized below. Unless otherwise noted, general biological information on the species is derived from the published literature, reports, and Internet resources listed under each species heading.

Gray Bat (*Myotis grisescens*)

Unless otherwise noted or referenced, the following general biological information on the gray bat is derived from FWS (1991), Harvey (1992), and Kentucky Bat Working Group (KBWG) (2000). The core range of the endangered gray bat encompasses the cave regions of Alabama, northern Arkansas, Kentucky, Missouri, and Tennessee, but a few occur in northwestern Florida, western Georgia, southwestern Kansas, south Indiana, south and southwestern Illinois, northeastern Oklahoma, northeastern Mississippi, western Virginia, and possibly western North Carolina. Gray bats are restricted to caves or cave-like habitats, and few caves meet their specific roost requirements. These restrictions result in about 95% of the population's hibernating in only eight or nine caves. For hibernation, the roost site must have an average temperature of 5.6°C to 11.1°C (42°F to 52°F). Most of the caves used by gray bats for hibernation have deep vertical passages with large rooms that function as cold air traps. Summer caves must be warm, between 13.9°C to 25.0°C (57°F and 77°F), or have small rooms or domes that can trap the body heat of roosting bats. Summer caves are normally located close to rivers or lakes where the bats feed. Gray bats have been known to fly as far as 12 miles or more from their colony to feed.

Gray bats roost, breed, rear young, and hibernate in caves year round. They migrate between summer and winter caves and will use transient or stopover caves along the way. One-way migrating distance between winter and summer caves may vary from as little as 16.09 km (10 miles) to well over 321.8 km (200 miles). Mating occurs as bats return to winter caves in September and October. By November, most gray bats are hibernating. Adult females begin to emerge in late March, followed by juveniles and adult males. Females store sperm over the winter and become pregnant the following spring. A few hundred to many thousands of pregnant females congregate to form maternity colonies. Males and nonreproductive females gather in smaller groups to form what are known as bachelor colonies. A single pup is born in late May or early June. The young begin to fly 20 to 25 days after birth. Gray bats primarily feed on flying insects over lakes, rivers, and streams. Aquatic insects, particularly mayflies, make up most of their diet.

Information about the occurrence of gray bats on the Oak Ridge Reservation (ORR) is limited. In November 1994, a single, dead gray bat was found in a display cabinet in Building 9204-3 at the Oak Ridge Y-12 Plant. The bat was probably an isolated individual juvenile that became lost, disoriented, and trapped. Mist netting for bats was conducted on the lower East Fork Poplar Creek (EFPC) and its tributaries in May 1992 and again in May through June 1997 (Harvey 1997). The 1997 survey included portions of lower Bear Creek near its confluence with lower EFPC. The creeks in this area provided good gray bat foraging habitat at the time of the surveys. No gray bats were recorded among the six species captured. More than 20 caves have been identified on the ORR. Mitchell et al. (1996) surveyed seven of the caves (Copper Ridge, Flashlight Heaven, Walker Branch, Big Turtle, Little Turtle, Pinnacle, and Bull Bluff), but no gray bats were found. There is an unverified report of ten gray bats roosting in Little Turtle Cave in September 1996. These bats were observed roosting and were not further disturbed; therefore, a definite, in-the-hand identification was not made (Webb 1996). Examination of photographs taken of the roosting bats indicate that they appeared to be *Myotis* and more than likely were gray bats, but the species could not be positively determined [Major (2000) and Henry (2000)].

Although no caves are present within the area of the proposed project, several caves are located within 6.4 km (4 miles) of the proposed site location and two of the caves are located within 2.4 km (1.5 miles). None of the caves has been completely and systematically surveyed for bats, except for the limited surveys

reported in Mitchell et al. (1996) and the 1996 report of *Myotis* roosting in Little Turtle Cave. The caves within the vicinity of the project area may not provide adequate hibernacula for gray bats, but they could provide transient or stopover roosting habitat for migrating gray bats. Suitable foraging habitat for gray bats within the vicinity of the proposed facility includes the Clinch River and the Scarboro Creek embayment. Scarboro Creek is a narrow, small stream and is considered suboptimal for frequent foraging for gray bats.

Since no caves are present within Parcel G, none would be disturbed as a result of any construction activities that might result from the transfer of Parcel G. Construction activities would also not directly impact any potential foraging habitat that exists in the vicinity, and all construction activities would only occur during the day, so any nearby foraging by gray bats would also not be disrupted. Activities associated with the operation of any new facilities would also primarily occur during the day and would not be expected to disrupt any gray bats that might forage near the site. In addition, the light industrial or commercial operations that are likely to be developed would not produce significant emissions or effluents that could directly impact foraging gray bats or indirectly affect aquatic insect fauna on which the gray bats would prey. Thus, the proposed transfer is unlikely to adversely affect the gray bat or its habitat.

Indiana bat (*Myotis sodalis*)

Unless otherwise noted or referenced, the following general biological information on the Indiana bat is derived from FWS (1991, 1999a, 1999b, 2000), Harvey (1992), and KBWG (1997, 2000). The Indiana bat is a migratory species found throughout much of the eastern half of the United States from Oklahoma, Iowa, and Wisconsin east to Vermont and south to northwestern Florida. For hibernation, Indiana bats prefer limestone caves with stable temperatures of 3.3°C to 6.1°C (38°F to 43°F) and high relative humidity. As with the gray bat, few caves meet the specific roost requirements of the species. Subsequently, more than 85% of the population hibernates in only nine sites. However, Indiana bats have been found hibernating in a few abandoned mines, a tunnel, and a hydroelectric dam. The bats hibernate from October to April, depending on climatic conditions. Density in tightly packed clusters is usually estimated at 3228 bats per m^2 (300 bats per ft^2), although as many as 5165 bats per M^2 (480 per ft^2) have been reported.

Female Indiana bats depart hibernation caves before males and arrive at summer maternity roosts in mid-May. A single offspring is born between late June and early July. The young bats can fly within a month of birth. Early researchers considered floodplain and riparian forest to be the primary roosting and foraging habitats used during the summer by the Indiana bat, and these forest types unquestionably are important. More recently, upland forest has been shown to be used by Indiana bats for roosting. Within the range of the species, the existence of Indiana bats in a particular area may be governed by the availability of natural roost structures, primarily standing dead trees with loose bark. The suitability of any tree as a roost site is determined by (1) its condition (dead or alive), (2) the quantity of loose bark, (3) the tree's solar exposure and location in relation to other trees, and (4) the tree's spatial relationship to water sources and foraging areas. The most important characteristic of roost trees is probably not species but structure (i.e., exfoliating bark with space for bats to roost between the bark and the bole of the tree). To a limited extent, tree cavities and crevices are also used for roosting. Maternity colonies use multiple primary roost trees, which are used by a majority of the bats most of the summer, and a number of "secondary" roosts, which are used intermittently and by fewer bats, especially during periods of precipitation or extreme temperatures. The summer roost of adult males is often near maternity roosts, but where most spend the day is unknown. Others remain near the hibernaculum, and a few males are found in other caves during summer. Researchers have found that primary roosts are generally in openings or at the edge of forest stands, while alternate roosts can be either in the open or in the interior of the forest stands. Indiana bats use roosts in the spring and fall similar to those selected during the summer. During the fall, when Indiana bats swarm and mate at their hibernacula, male bats roost in trees nearby during the day and fly to the cave during the night.

Indiana bats forage in and around the tree canopy of floodplain, riparian, and upland forest. In riparian areas, Indiana bats primarily forage around and near riparian and floodplain trees (e.g., sycamore,

cottonwood, black walnut, black willow, and oaks), and solitary trees and forest edge on the floodplain. Streams, associated floodplain forests, and impounded bodies of water (e.g., ponds, wetlands, and reservoirs) are preferred foraging habitat for pregnant and lactating Indiana bats, some of which may fly up to 1.5 miles from upland roosts. Indiana bats also forage within the canopy of upland forests, over clearings with early successional vegetation (e.g., old fields), along the borders of croplands, along wooded fencerows, and over farm ponds in pastures. Indiana bats return nightly to their foraging areas. Indiana bats feed strictly on flying insects, and their selection of prey items reflects the environment in which they forage. Both aquatic and terrestrial insects are consumed. Moths, caddisflies, flies, mosquitoes, and midges are major prey items. Other prey includes bees, wasps, flying ants, beetles, leafhoppers, and treehoppers. During September, the bats depart for hibernation caves.

Information about the occurrence of Indiana bats on the ORR is limited. Mist netting for bats was conducted on lower EFPC and its tributaries in May 1992 and again in May through June 1997 (Harvey 1997). The 1997 survey included portions of lower Bear Creek near its confluence with lower EFPC. The creeks in this area provided Indiana bat summer roosting and foraging habitat at the time of the surveys. No Indiana bats were recorded among the six species captured.

In Tennessee, the nearest hibernating population of Indiana bats exists in White Oak Blowhole Cave, located in Blount County in the western end of the Great Smoky Mountains National Park. This cave has been designated as critical habitat for this species. A few Indiana bats also hibernate in Bull Cave, also located in Blount County. No maternity roosts have been located on the ORR, or as yet in Tennessee. However, in July 1999, a small colony of Indiana bats was discovered roosting in a dead hemlock tree on the Cheoah Ranger District of the Nantahala National Forest in Graham County, North Carolina. This discovery represents the first record of a reproductive female Indiana bat being found south of Kentucky. Recent collections of individual Indiana bats have also been recorded from the Cherokee National Forest near Tellico Lake in Monroe County, Tennessee. These reports indicate that summer colonies of the species may be present in east Tennessee. The habitat from which these individuals were collected is similar to suitable habitat found on the ORR.

Although there is no suitable summer roosting habitat for the Indiana bat on Parcel G, there is probably suitable habitat along Haw Ridge, which borders Parcel G to the south. Although unlikely, a maternity colony, an adult male colony, or individual Indiana bats could use roosting habitat located in the vicinity of the Parcel G. Suitable foraging habitat for Indiana bats within the vicinity of Parcel G includes the Clinch River and the Scarboro Creek embayment. Upper Scarboro Creek is a narrow, small stream and is considered suboptimal for frequent foraging for Indiana bats.

Any construction activities on Parcel G would likely require removal of trees at the site. Clearing of the woodland at Parcel G should not adversely affect Indiana bats since the existing habitat is considered to be of poor quality. Even with the poor quality of the habitat, it would be recommended that no tree cutting would occur during the summer roosting season from May through September. This should prevent the loss of any bats that otherwise might be using the trees for rearing young and should also eliminate the need for mist netting or detailed surveys. Construction activities would also not directly impact any potential foraging habitat that exists in the vicinity of Parcel G and all construction activities would only occur during the day, so any nearby foraging by Indiana bats would also not be disrupted. Activities associated with the operation of any new facilities would also primarily occur during the day and would not be expected to disrupt any Indiana bats that might forage near the site. In addition, the light industrial or commercial operations that are likely to be developed would not produce significant emissions or effluents that could directly impact foraging Indiana bats or indirectly affect aquatic insect fauna on which the Indiana bats would prey. Thus, the proposed transfer is unlikely to adversely affect the Indiana bat or its habitat.

REFERENCES

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APPENDIX E

RESPONSE TO COMMENTS

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Comment Response Table
Draft Environmental Assessment for the Conveyance of the American Museum of Science and Energy, Parcel G, and Parcel 279.01 to the City of Oak Ridge, Tennessee

Comment No.	Page or Sheet	Comment	Response
		John A. Owsley (TDEC , DOE Oversight Division)	
1.		The statements notifying potential property owners of acceptable risk in the groundwater should also indicate levels of potential liabilities and responsibilities. It is suggested that when "use" of groundwater is mentioned, a clarification should be inserted so that no "use classification" can be made except as prescribed by Tennessee Water Control Act, T.C.A. 69-3-105(a)(2).	Parcel G was reviewed under the South Campus Facility RI/FS in 1995 pursuant to the FFA. However, Parcel G was not part of the property noted in the RI/FS as being contaminated. As a matter of policy, DOE will include in the deed for Parcel G appropriate restrictions prohibiting groundwater use as has been the policy for previous land transfers. The text in Sect. 4.4.1 will be clarified to indicate that no "use classification" for groundwater can be made except as prescribed by Tennessee Water Control Act, T.C.A. 69-3-105(a)(2).
		Paul C. Boyer, Jr. (City of Oak Ridge)	
2.		The EA describes the purpose of the proposed action is to preserve the museum as an asset to the City and to the surrounding region. The real property transfers are intended to help offset economic losses resulting from DOE downsizing, but also to help offset the City's long-term cost of operating the museum. My letter to ORO Manager Leah Dever dated March 27, 2001, and Ms. Dever's October 3, 2001 response, acknowledge the importance of AMSE as an attraction to the City and of Parcel G in meeting DOE's and the City's common objectives.	A sentence will be added to the EA in Sect. 1.1 (Purpose & Need) stating that the proposed action is also intended to help offset the City's long-term cost of operating the museum.
3.		I recommend that the Parcel G. boundary be reconfigured to exclude all three Swine Waste Ponds, as these are liabilities and add no value to the development potential of the parcel.	Parcel G as currently configured includes the three former Swine Waste Ponds. For purposes of analysis, the ponds will remain in the EA. Reconfiguration of the Parcel G boundary to exclude the ponds could be a topic of discussion between the City and DOE during negotiations for the actual transfer.
4.		Because deed restrictions and reversion clauses will have an impact on the marketability of the property, I recommend that these institutional controls be avoided for the subject parcels unless there is clear evidence of contamination that cannot be remediated. Easement and deeds should contain language that is consistent with the model established during the recent water plant transfer.	Land transfers are not accomplished on any "model" basis and are tailored to each specific action. The subject of deed restrictions and reversionary rights will be addressed during subsequent negotiations.

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Draft Environmental Assessment for the Conveyance of the American Museum of Science and Energy, Parcel G, and Parcel 279.01 to the City of Oak Ridge, Tennessee

Comment No.	Page or Sheet	Comment	Response
5.		I recommend that the boundary of Parcel G be reconfigured to incorporate the gravel access road, which begins at the gate and runs along the northern border of Parcel G parallel with the Bethel Valley right-of-way and fence. By doing so, marketability would be enhanced, and the development would minimize further disturbance of environmentally sensitive areas, particularly along Scarboro Creek.	DOE acknowledges the City's comment about access to Parcel G.
6.		I recommend that ownership of all artifacts be transferred to the City as part of the museum conveyance; otherwise, DOE would still be actively engaged in museum operations, significantly reducing any benefit associated with the proposed action.	It is DOE's intention to maintain ownership of historic and scientific artifacts and archives currently on display or stored at the museum. Prior to the transfer, DOE will conduct an inventory of the items contained within the museum and make a determination on which items have cultural/historical significance and require protection under the National Historic Preservation Act. It is assumed that those items that do not have a historical significance requiring protection would be transferred to the City.
7.		Since it does not appear that the TDOT project encompassed the entire remaining 57 acres, and it is unclear why the parcel was reduced to such a degree, I respectfully request that DOE review the situation and move to declare more the land surrounding the subject acreage excess to the agency's needs. Such an action will significantly enhance the marketability and cost-effectiveness of developing the site, and will provide a greater assurance that DOE's and the City's objectives as stated in the EA are met.	The scope of this EA was defined by the City's letter dated March 27, 2001 to DOE requesting the transfer of Parcel G (18-20 acres). DOE's response to the City's letter dated October 3, 2001 also stated that the size of Parcel G being considered was 18.62 acres.
8.	Sect. 3.2.2	Finally, several minor corrections and one clarification are recommended. Section 3.2.2 pertaining to air quality states that Anderson County would not meet the new ozone standard and Roane County would not meet the new standard for very fine particles if the standards were implemented. Since these standards have not been finalized by the Environmental Protection Agency, statements suggesting noncompliance are misleading and should not be included in the final EA.	The last sentence in Sect. 3.2.2 will be deleted.
9.	Sect. 3.9.2; pg. 5-3	Section 3.9.2 incorrectly states that the AMSE obtains refuse removal services from the City of Oak Ridge. The City does not provide this service. Page 5-3 refers to the Boeing Site Development. The new name for this development is Rarity Ridge.	The statement about refuse removal services will be corrected and the new name for the former Boeing property will be added.

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Comment No.	Page or Sheet	Comment	Response
10.	Sect. 4.8.1.3	Section 4.8.1.3 describes the possible fiscal impacts of the proposed conveyance on the City. The final EA should include additional information regarding the current budget for AMSE as compared to the projected $1.7 million budget the EA states would be required to operate the museum in years 1-5, and $1.8 million in years 6 and beyond.	DOE will obtain and present the current AMSE budget in the final EA to provide a comparison to the projected $1.7 million budget.
11.		The sentence in paragraph two of this section beginning "An increase of $1.8 million . . ." should read "An increase to $1.8 million . . ."	The text in the second paragraph will also be revised to read "An increase to $1.8 million…"
		Jo Ann Thompson	
12.		I ask that the 3.36 acres of wetlands including the Scarboro Creek flood plain be protected by D.O.E. by placing permanent restrictions on Parcel G, prohibiting destruction of the wetlands and flood plain, prior to transfer of Parcel G to the City of Oak Ridge.	The 3.36-acre figure in the Draft EA includes the wetlands within Parcel G and the adjacent DOE property to the south. The wetlands within the Parcel G boundary only total about 1 acre. Prior to any development that might occur having the potential to impact the wetlands and floodplain would be subject to regulation by the Corps of Engineers and TDEC including obtaining any applicable permits.
		D.E. White	
13.		I would prefer to see the transfer of AMSE to a private endowment.	Comment noted. The proposed action includes UT-Battelle participating in a development campaign designed to establish an endowment for the museum.
		Lloyd Stokes (ORHPA Rep.)	
14.		AMSE EA is one the best that I have reviewed in several years. My only concern is that DOE "put restrictions" on museum building, land adjacent to museum and the cultural resources owned by DOE to prevent their disposal/sale to anyone but a "foundation" by the City of Oak Ridge. The nation and citizens of Oak Ridge need the AMSE to build our greatest industry—tourism and the Manhattan Project. This should be done to satisfy the NHPA, Executive Order 11593 and, of course, NEPA requirements. Why has AMSE not been submitted for the National Register of Historic Places?	It is not DOE's intention to place restrictions on the City regarding the museum facility and the adjacent property. However, it is DOE's intention to maintain ownership of historic and scientific artifacts and archives currently on display or stored at the museum. Prior to the transfer, DOE will conduct an inventory of the items contained within the museum and make a determination on which items have cultural/historical significance and require protection under the NHPA. DOE is currently working with the TN-SHPO to ensure the proper curation and management of these resources. The proposed action includes UT-Battelle participating in a development campaign designed to establish an endowment for the museum. The AMSE has not been determined to be eligible for the NRHP because it does not meet the NRCE and, thus, is not yet considered to be an historic property.

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Comment No.	Page or Sheet	Comment	Response
		Ed Westcott	
15.		My choice - Transfer to Private Endowment, UT-Battelle has resources to raise funds. Oak Ridge contractors have plenty of sources to raise money. Let them sell property to raise tax money for City. Keep the City out of this. City has no business trying to run a museum. Museum cannot pay its way now. City is not in real estate business. Let DOE sell property. City cannot be stuck with Parcel G—too many restrictions. DOE take bids on Parcel G or turn over to City to sell.	Comment noted. The proposed action includes UT-Battelle participating in a development campaign designed to establish an endowment for the museum.

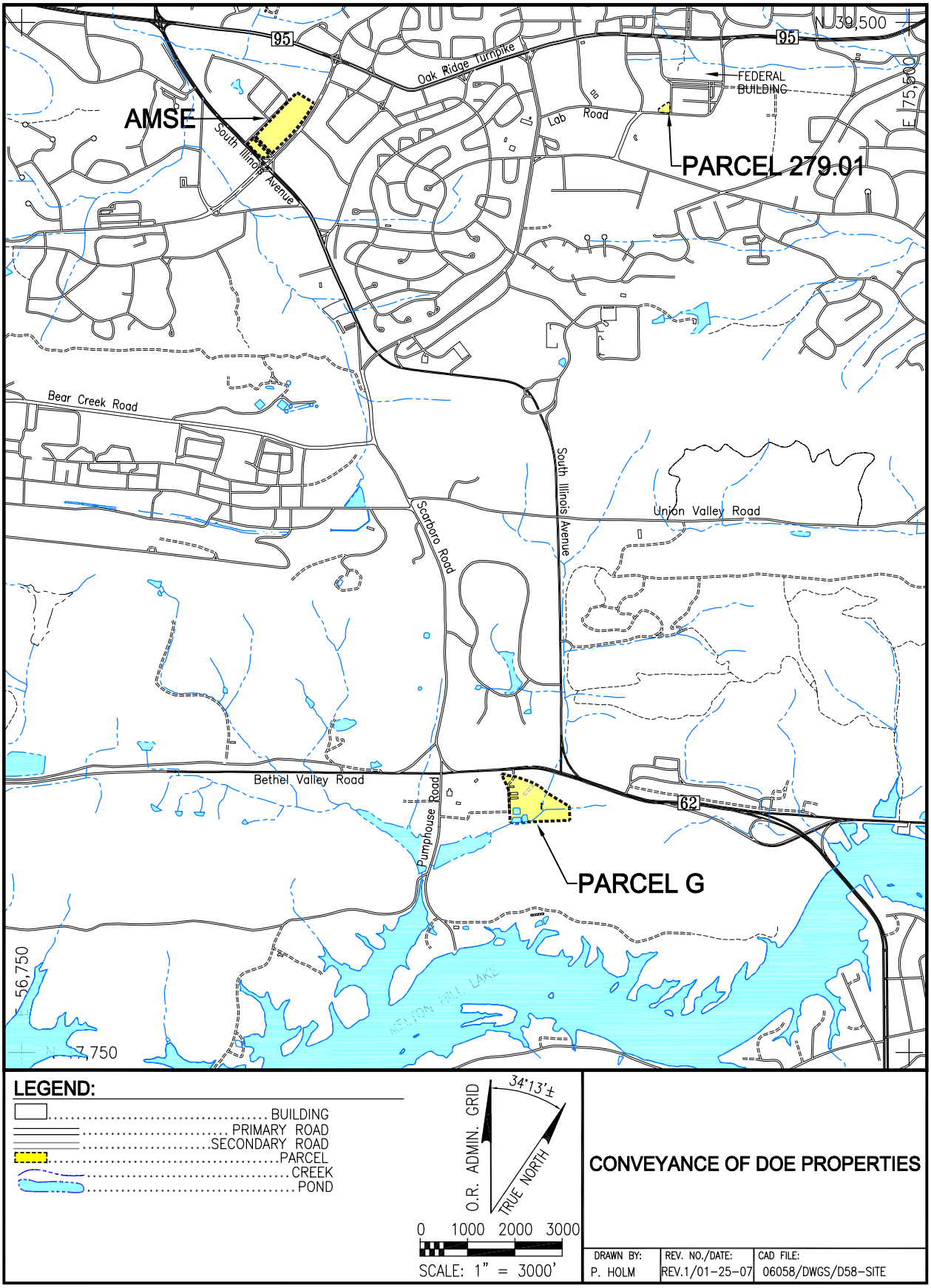

Fig. 1.1. Vicinity map for AMSE, Parcel G, and Parcel 279.01.

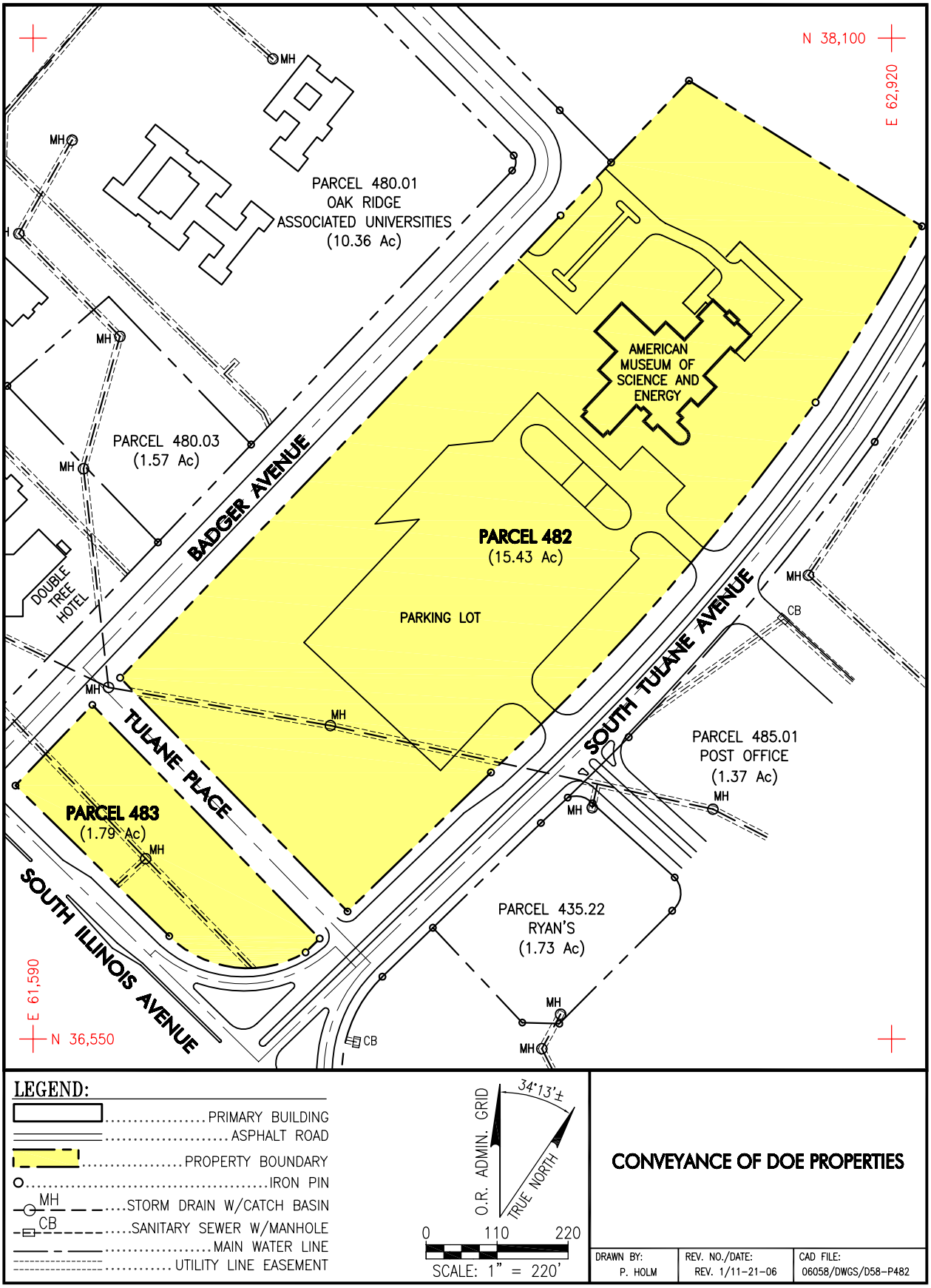

Fig. 3.1. American Museum of Science and Energy and associated property.

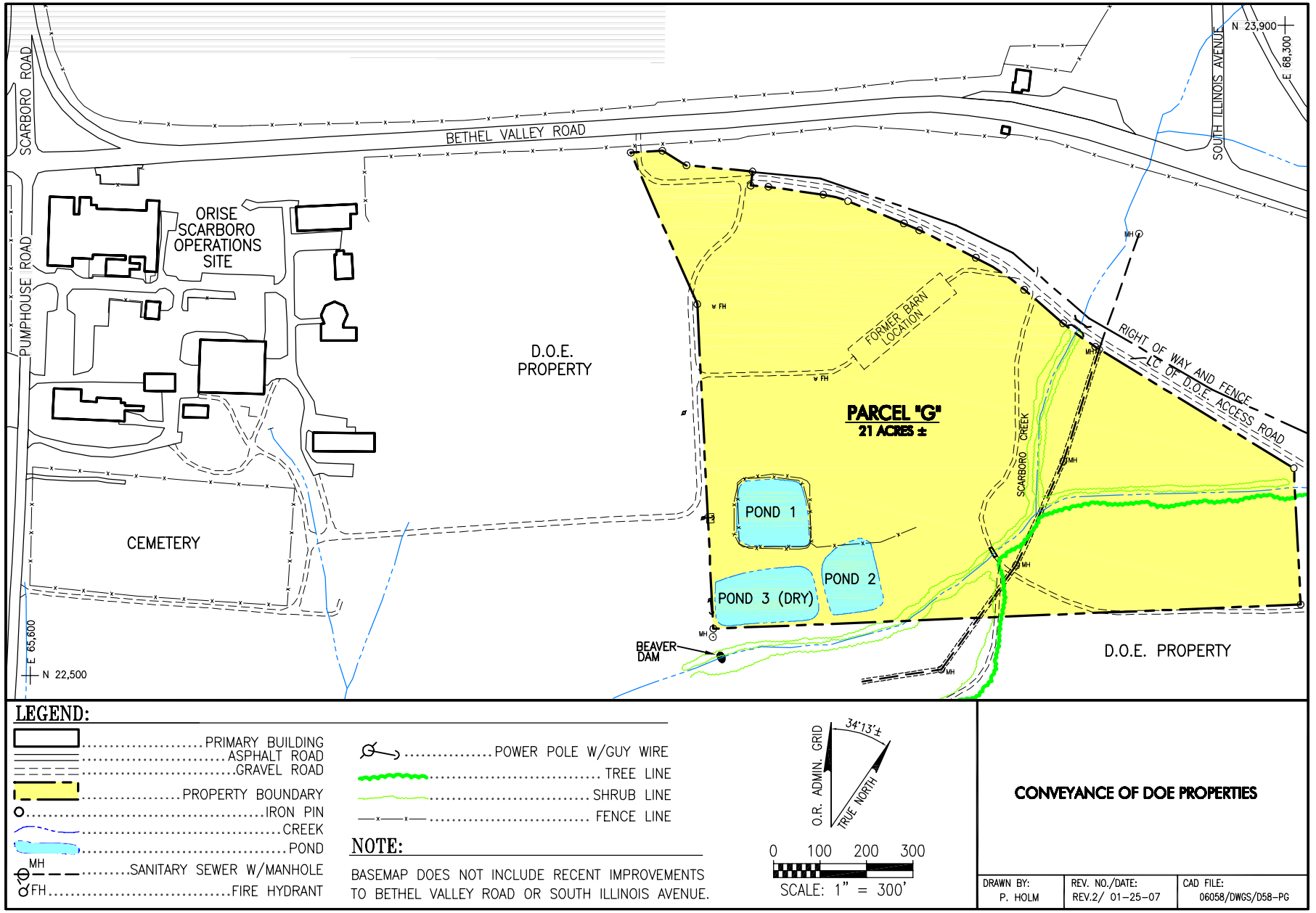

Fig. 3.2. Parcel G.

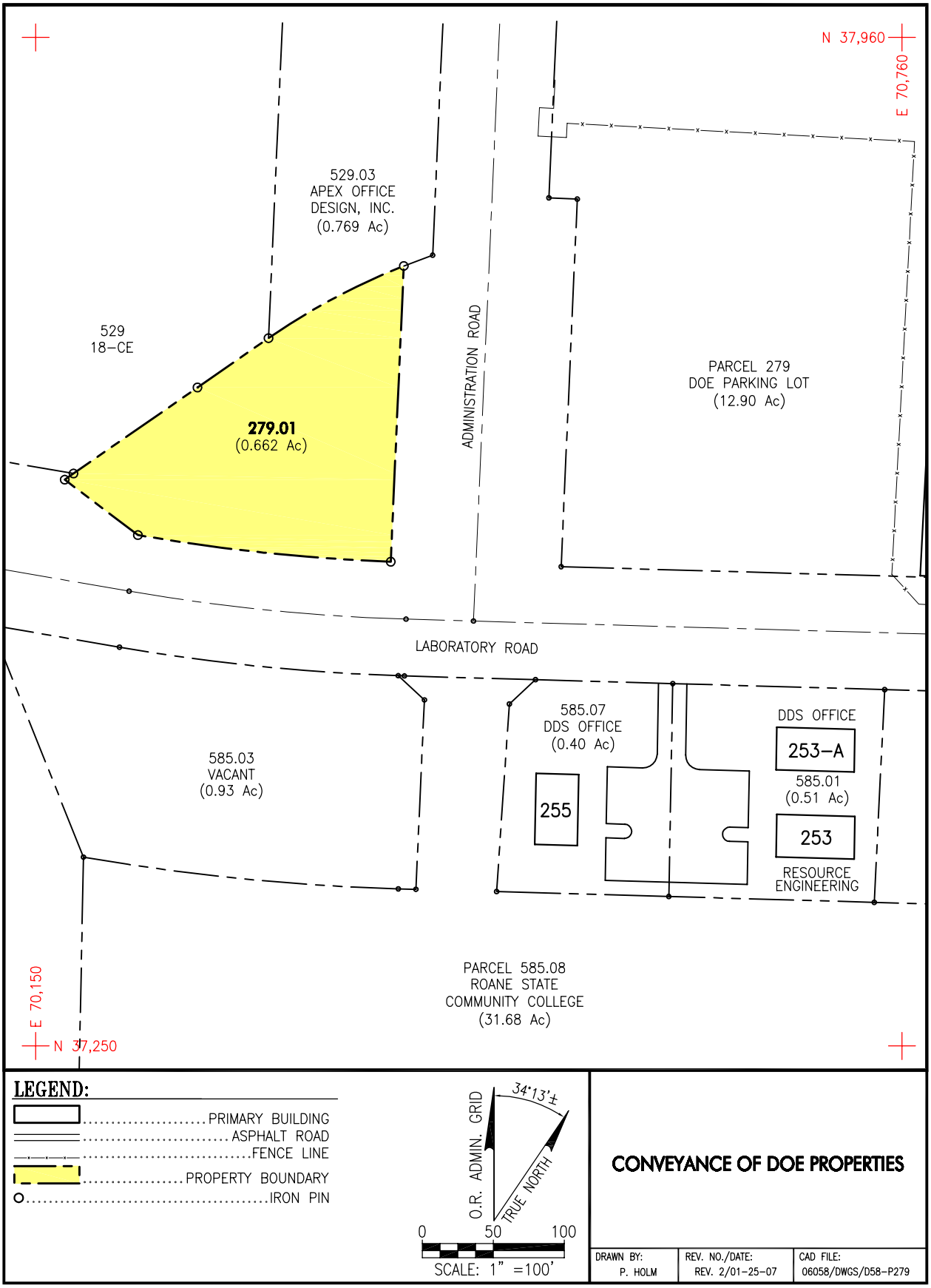

Fig. 3.3. Parcel 279.01.