

STAFF RECOMMENDATION

E. Keller

NCPC File No. 6507



**HENRY A. WALLACE BELTSVILLE AGRICULTURAL RESEARCH CENTER
PANEL ANTENNAS AND ASSOCIATED EQUIPMENT FOR T-MOBILE
TELECOMMUNICATIONS FACILITY, AND EXISTING SPRINT AND AT&T
TELECOMMUNICATIONS ANTENNAS**

5601 Sunnyside Avenue
Beltsville, Prince George's County, Maryland

Submitted by the U.S. Department of Agriculture

September 30, 2004

Abstract

The U.S. Department of Agriculture (USDA) has submitted plans for the installation of nine transmitting and receiving T-Mobile Wireless telecommunications antennas and an existing complement of 21 antennas on the existing water tower at the USDA Beltsville Agricultural Research Center, in Prince George's County, Maryland. Equipment cabinets also are established on the ground adjacent to the other electrical cabinets within a fenced equipment area at the foot of the water tower.

Commission Action Requested by Applicant

Approval of preliminary and final site and building plans pursuant Section 5 of the National Capital Planning Act (40 U.S.C. § 8722(b)(1)).

Executive Director's Recommendation

The Commission:

Approves the preliminary and final site and building plans for 21 existing Sprint and AT&T wireless communications antennas and the installation of nine T-Mobile transmitting and receiving antennas, with associated equipment cabinets, at the Henry A. Wallace Beltsville Agricultural Research Center, as shown on NCPC Map File No. 3212.10(38.30)-41443, for a period not to exceed five years.

Requests that the existing water tower's exterior be refurbished and painted as soon as possible.

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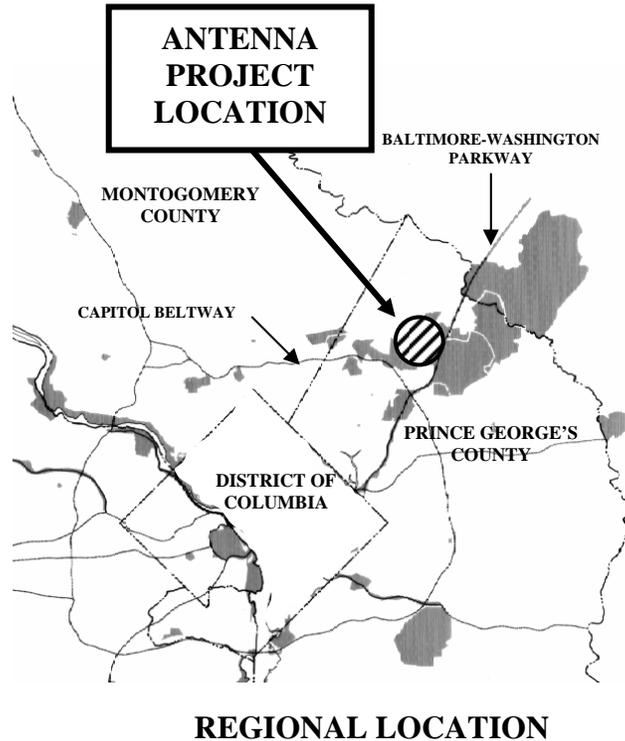
PROJECT DESCRIPTION

Site

The Henry A. Wallace Beltsville Agricultural Research Center (BARC) occupies over 1000 acres immediately north and south of the Capitol Beltway in Prince George's County, Maryland. The immediate area of the existing Sprint, AT&T, and proposed T-Mobile telecommunications antennas is bounded by Baltimore-Washington Parkway on the east and Beaver Dam Road to the north. The water tower, known as structure 286 on the BARC inventory, is located in the east portion of the research complex and is 152 feet in height.

Background

The Commission has never reviewed potential communications antennas locations at the existing water tower. According to the applicant's comprehensive Radio Frequency (RF) telecommunications study and the project submission materials, other antennas are located and operated by two additional telecommunications carriers that include Sprint PCS, and AT&T Wireless. These elements are fully identified on the applicant's detailed drawings and analyzed by the accompanying RF emission analysis.



Proposal

The submission identifies 21 existing panel antennas, owned and operated by two separate telecommunications companies, and nine new telecommunication antennas that would be operated by T-Mobile. The T-Mobile panel antennas will measure 4.6 feet long by approximately 8 inches wide and 2.75 inches deep. The other antennas are similar in dimensions and are located below the T-Mobile antennas but are situated at the tank on the service platform handrail encircling the tank and on the supporting tower legs. The antennas will be painted the same color as the water tower which will blend them with the existing tank structure when the whole of the structure is painted. The current antennas are mounted at the approximately 115-foot and 125-foot levels of the tower, while the T-Mobile antenna will be located approximately 135 feet above the ground level. All elements can only be accessed by the tank tower ladder, which has its lowest portion barricaded, so that access can be achieved only by authorized personnel.

A required small structural cabinet, containing electrical switchgear and other electrical components, will be connected to the antennas by coaxial cable, which will be aligned and attached to one leg of the water tower. The cabinet will be located adjacent to the existing carriers' cabinets on the ground below the tank tower. The cabinet will measure approximately 6 feet tall, 2 feet 3 inches deep and almost 3 feet wide. The existing cabinets and the new T-Mobile cabinet will not be visible from outside of the installation.



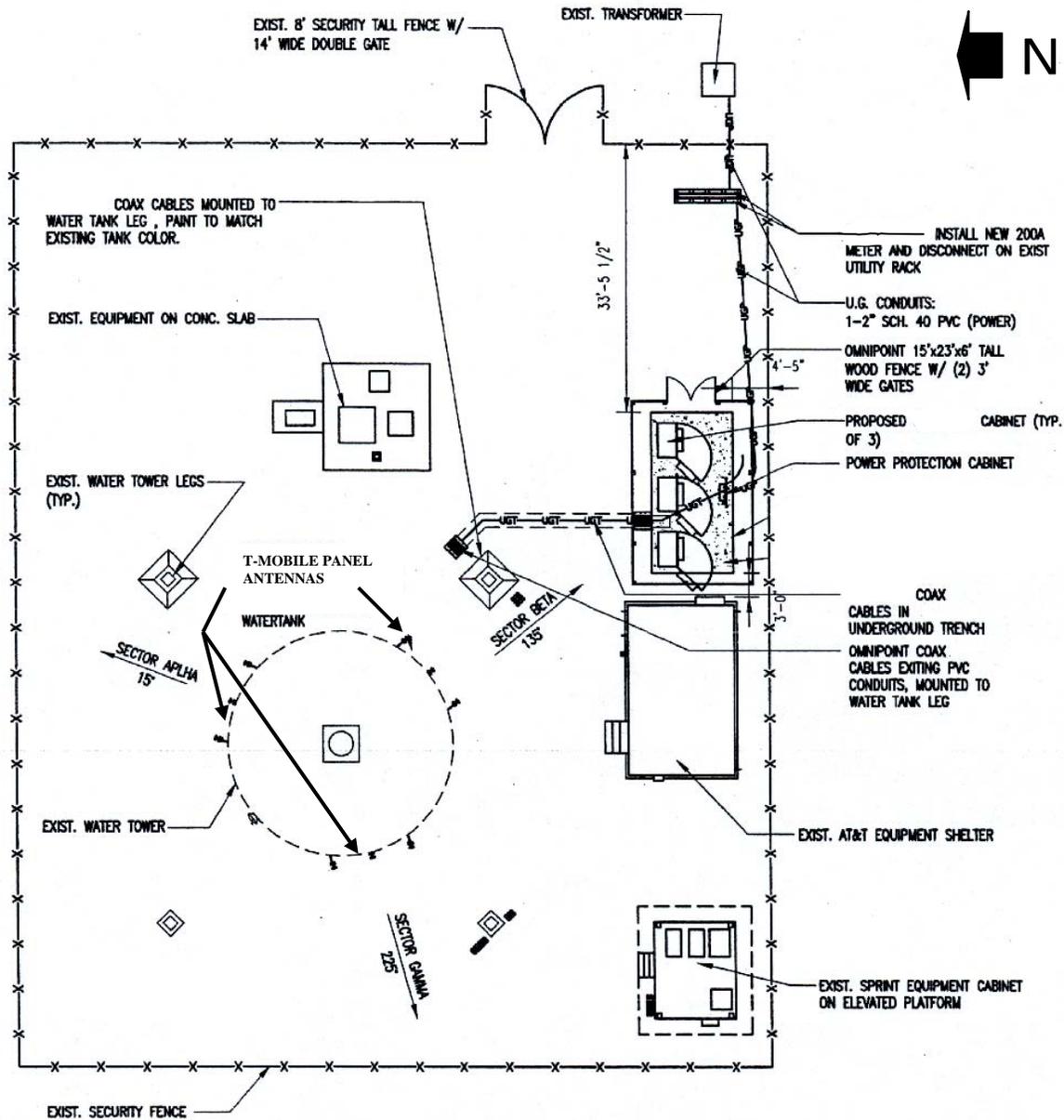
**AERIAL VIEW OF BELTSVILLE AGRICULTURAL RESEARCH CENTER
WATER TOWER LOCATION**

PROJECT ANALYSIS

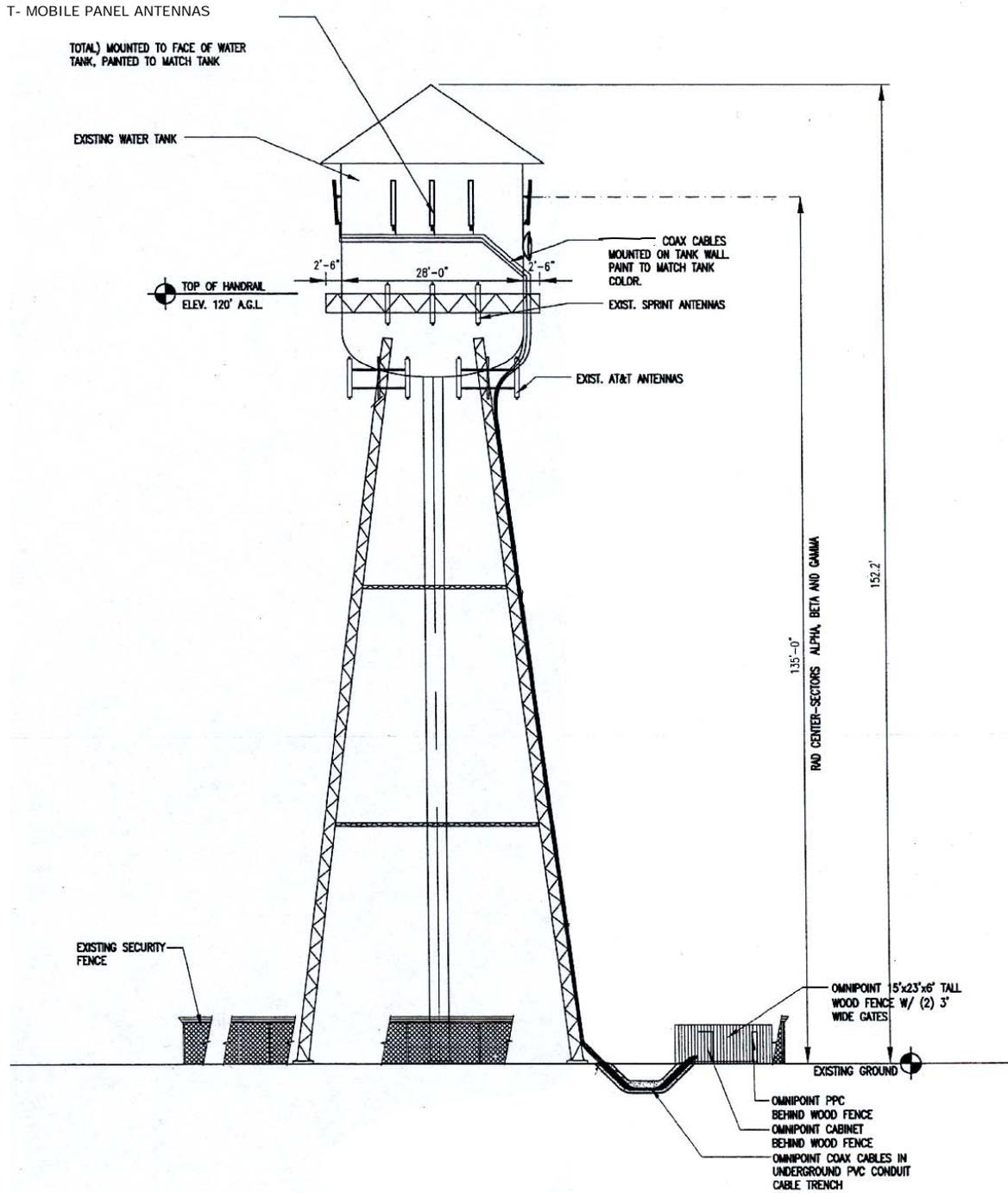
Executive Summary

The **staff recommends approval of the proposal** for a period not to exceed five years. The proposed antennas are consistent with the Commission's Antenna Guidelines and with the Telecommunications Act of 1996 encouraging placement of commercial antennas on federal

property. Furthermore the submission is consistent with the Commission's preference for collocation of antennas when possible. All thirty antennas will be minimally visible – the panel antennas are similar in size and will be painted to blend in with the tower. Although the Commission has the authority to approve the antennas for a period of ten years, staff recommends only a five-year approval because of the undefined date of the original location of



EXISTING WATER TOWER SITE PLAN INDICATING LOCATION OF EQUIPMENT CABINETS AND PERIMETER SECURITY FENCE



EXISTING WATER TOWER ELEVATION INDICATING LOCATION OF ALL SUBMITTED TELECOMMUNICATIONS ANTENNAS



**PHOTO OF EXISTING ANTENNAS ON TOWER WITH PROPOSED
ADDITIONAL ANTENNAS ON TANK SIDEWALL**

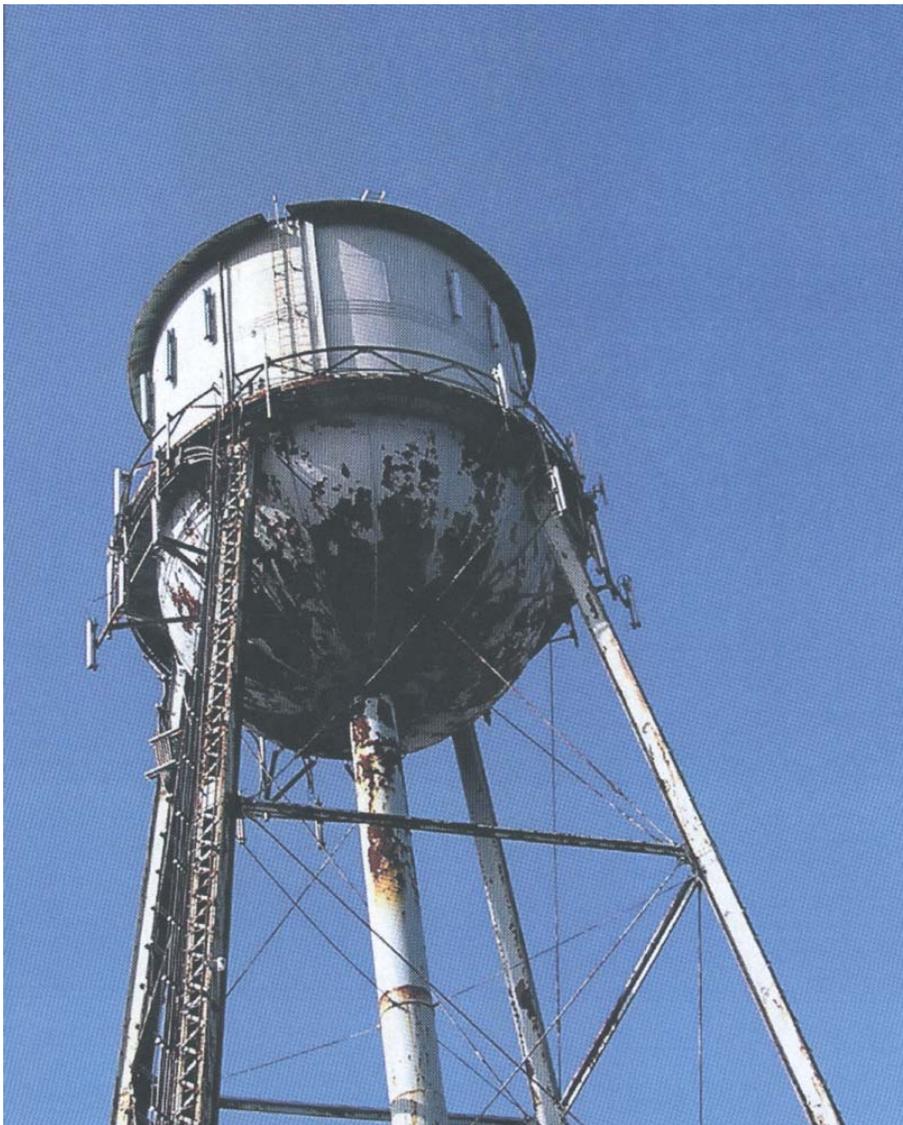
the Sprint and AT&T antennas which are now formally approved by this review. Staff highlights to the USDA that they are to be cognizant of the time sensitive approval, and anticipate the coordination of all renewal approvals for all cellular telecommunications facilities at BARC by no later than July 2009.

As a final point to the staff's review and analysis of the applicant's request, staff is recommending the Commission note to the USDA that the repainting of the water tank should occur as soon as reasonably possible based on the submission documented condition of its exterior.

Radiofrequency Radiation Analysis

The USDA has submitted information about the proposed antennas, consistent with the Commission's applicable Guidelines and Submission Requirements for Antennas. Only limited new structures will need to be constructed on the ground surface of the tower base adjacent to the

other equipment shelters. None of the existing or proposed equipment structures emit RF levels. A radio frequency environmental study, conducted by telecommunications consultants and T-Mobile and provided in the submission, documents that the proposed antennas will not adversely affect human health and safety. Part of the lack of potential hazards is attributed to the distance of the antennas above ground and the lack of similarly tall, habitable, nearby structures anywhere in the vicinity of Beltsville water tower. Both the existing and proposed antennas are highly directional and will radiate most of the power towards the horizon rather than towards the ground. The maximum effective high level emission from all panel antennas was identified at 2-4 feet from the panel surface. Since all antennas are located at 115 to 135 feet above the ground, no adverse emission levels are encountered by the general public.



**PHOTO OF EXISTING ANTENNAS ON TOWER WITH PROPOSED
ADDITIONAL ANTENNAS ON TANK SIDEWALL**

The analysis provided indicates a conservative assumption that all antennas would be operating at full capacity with all channels transmitting. The maximum power densities are well below the maximum permissible exposure standards established by the Federal Communications Commission. The power densities of the proposed antennas are not significantly in variance with the existing power output of other antennas currently placed on the water tower. Cumulative RF effects are not significant and would not impact people on the ground.

CONFORMANCE

Comprehensive Plan for the National Capital

Staff review finds the proposed telecommunications antennas comply with the goals and objectives of the Plan. The following policies adopted by the Commission in the Federal Environment Element, in August 2004, indicate federal actions in the region should conform to the following policy:

58. Evaluate the possibilities for joint-use of antennas and collocating antennas to reduce aesthetic impacts and limit the area of radiofrequency (RF) exposure. Federal agencies should also evaluate the cumulative effect of multiple transmitters at one location to ensure that the combined radiofrequency emissions continue to meet Federal Communications Commission guidelines.

Staff has determined that the antenna installation would not have an effect on other federal facilities or federal interests. The Baltimore-Washington Parkway is not adversely affected because the telecommunications antennas are situated on an existing tall structure, and are colored identical to the water tank surface. Moreover, the tank tower is situated 375 feet from the Parkway travel lanes behind stands of tall trees that provide a heavy canopy cover during much of the year. Consequently, the tower is not visible to users driving on the Parkway much of the time, except from an extreme distance. At that viewpoint, the panel antennas are not distinct from the overall form of the water tank itself.

Finally, the USDA submission materials clearly indicate that RF emissions do not radiate at any significant power level that would impact any electronic facilities or operations at the Goddard Space Flight Center. That facility is located 1.2 miles southeast of the tower in Greenbelt, Maryland.

Master Plan

The Commission approved a revised master plan for BARC in June 1996. The antennas are not inconsistent with the master plan, which identifies the water tower land use for Research and Development.

National Environmental Policy Act

Pursuant to the Council on Environmental Quality Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act (NEPA), the Commission staff has

reviewed the submission and has found the applicant specified that the proposal is consistent with the Commission's categorical exclusion provisions at Section 8 of the Commission's Environmental Procedures. The staff finds the Section 8 categorical exclusion applies to the proposal in that the submission conforms to the criteria of co-location of communication antennae on federal property consistent with the General Services Administration Bulletin FPMR D-242, *Placement of Commercial Antennas on Federal property*, and adheres to all NCPC requirements for antennas on federal property. The submitted RF evaluation for operation of the antennas confirms the elements coincide with all environmental impact criteria of the Federal Communications Commission.

National Historic Preservation Act

The Maryland Historical Trust concurred with the USDA finding of no adverse effect regarding the panel antennas on May 6, 2004.