



# Reconciling Air Force Real Property Records

Significant opportunities for facilities sustainment, restoration, and modernization funding were recently discovered at Hurlburt Field, Fla., after reconciling GIS data and real property asset records. U.S. AIR FORCE PHOTO BY AIRMAN 1ST CLASS HAILEY M. ZIEGLER

After discovering anomalies between geographic information system data and real property asset records at Hurlburt Field, a deeper investigation uncovered significant underfunding for its assets, and led to a greater sharing of expertise among base personnel.

By David Streed, M.S.A.M.E.

**B**uilt in the 1940s, Hurlburt Field spans 6,634-acres in Okaloosa County, Fla. Part of the greater Eglin AFB, Hurlburt employs 8,036 military personnel and serves as the headquarters of U.S. Air Force Special Operations Command and is also home to the 1st Special Operations Wing, the 24th Special Operations Wing, the 492nd Special Operations Wing, and the 505th Command and Control Wing. With 3.8-million-yd<sup>2</sup> of pavement and 1,180 facilities totaling over \$2.2 billion in assets, keeping accurate real property records is critical, including funding for facilities sustainment, restoration, and modernization (FSRM).

Recently, an analysis and reconciliation of geographic information system (GIS) data with real property asset records

uncovered millions of dollars in underfunding. After several anomalies were discovered in the installation's real property asset records, a further investigation led to more accurate inputs for the FSRM Report, the funding vehicle used by the Department of Defense to support facilities upkeep at all military installations.

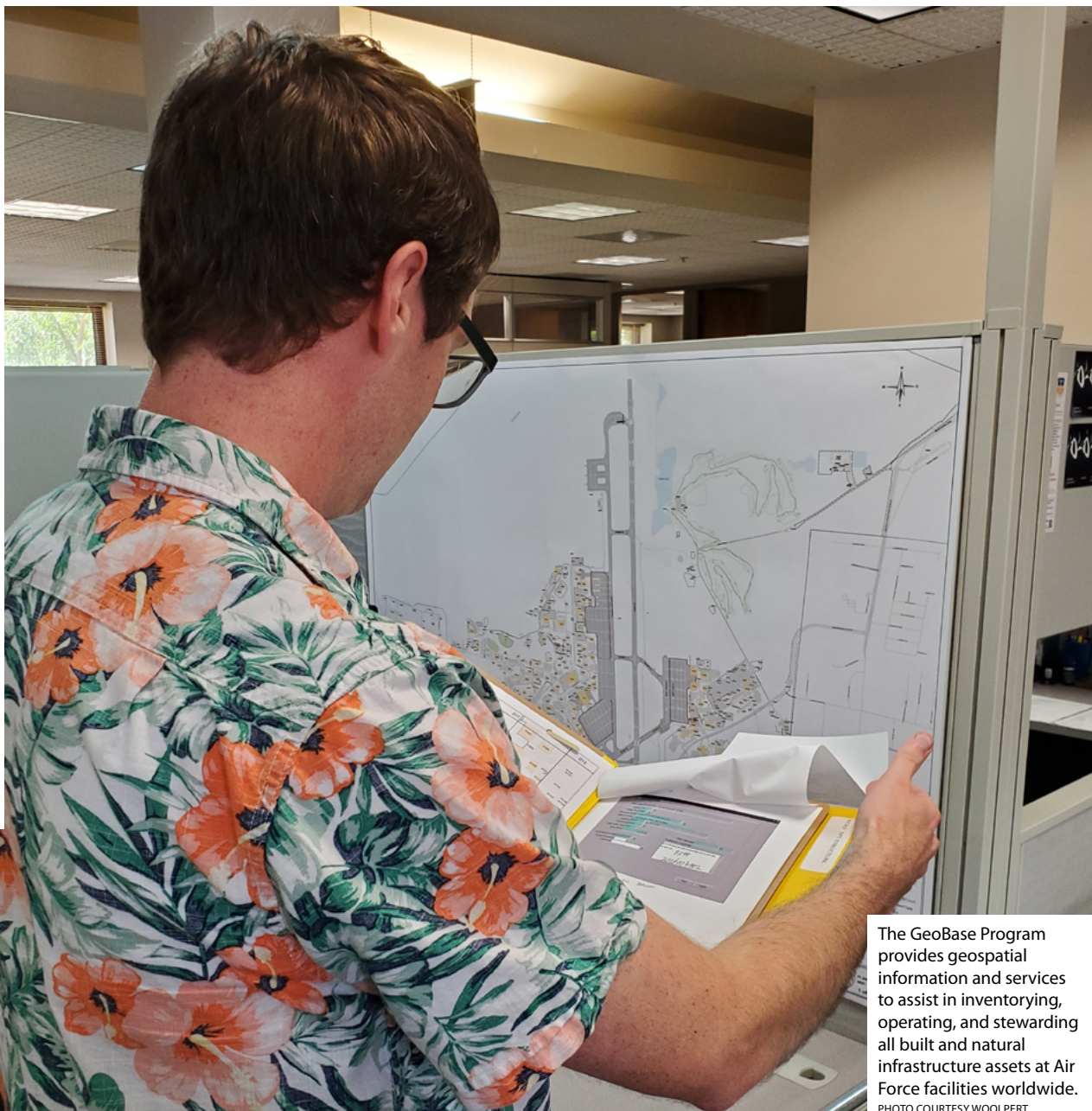
As other installations strive for more efficient and accurate real property asset programs, Hurlburt Field's success story provides key lessons.

## FUNDING CORRECTION

At Hurlburt, the GIS database contains three sets of geospatial information: raster data, vector data, and tabular data. The base's Real Property Office separately maintains the real property asset records relied upon to fill out the FSRM Report. Real property assets are generated when an asset is constructed or placed on an installation, with inventories and inspections conducted every five years to ensure accuracy.

The Air Force's Installation Geospatial Information and Services Program (GeoBase) assists with inventorying, operating, and stewarding all built and natural infrastructure assets worldwide.

Woolpert has been under contract in support of the GeoBase Program. After questions were raised about the funding levels



The GeoBase Program provides geospatial information and services to assist in inventorying, operating, and stewarding all built and natural infrastructure assets at Air Force facilities worldwide. PHOTO COURTESY WOOLPERT

of Hurlburt Field compared to other Air Force bases, the firm was tasked with investigating why the FSRM Report resulted in lower funding than expected. The data analysis involved examining what the GIS database contained, comparing that data to information maintained by the Real Property Office,

Among the first errors discovered was an incorrect unit of measurement for a substation noted in the GIS database. The discrepancy—that the quantity was measured in kilovolts rather than volts—was found by talking to the electrical engineer after noticing the real property database calculated the replacement value of the substation significantly lower than expected. Searching within the real property database for units of measure similar to the substation, more incorrect quantities for other assets were found. That discovery alone amounted to an estimated discrepancy in funding of nearly \$1 million.

**The data analyses and subsequent corrections at Hurlburt Field will result in additional future-year FSRM funding that could eventually total an estimated \$2.27 million if the Facilities Sustainment Model was fully funded.**

verifying the assets with base personnel, and sharing the findings with the Air Force Civil Engineer Center (AFCEC).





## TAKING A MACRO VIEW

Matthew Wellinski is a GIS specialist with Woolpert, assigned to Hurlburt Field to support and integrate real property information. The position is funded by AFCEC's Geographic Information Office, with an objective to explore how real property and GeoBase collaboration can benefit both programs and the base. Wellinski previously served six years in the Air Force and reached the rank of staff sergeant while working as an engineering technician.

Prior to his current role, he said the GeoBase Program did not interact much with Real Property Office. "I noticed everything we were doing on the GeoBase side never really translated to any other place other than our own database." Questions came about when there was an issue with a utility line, for instance, when a dig permit was needed.

Years ago, discrepancies were identified when the GIS database was linked to Real Property Office records. Out of concern for information assurance, the two databases were since separated. Having a GIS specialist work closely with the base's real property accountable officer underscored the need for this data validation and led to discussions with other installations looking to correct their real property asset records and establish best practices.

If an owner only looks at one facility asset number at a time during the inspection process, rather than collectively, they may not identify errors such as missing assets. "Real property inspections are done every five years at a micro level," according to Wellinski. "By taking a macro approach to review the assets, we are able to identify discrepancies in the data and accurately account for assets."

Another significant finding was that only 17 electrical transformers were in the records at the base. After reviewing a map and checking the GIS database, it was determined there were more than 390 transformers on the installation. Another

Hurlburt Field's most recent AFCEC audit also came back cleaner than audits at other installations, leading to requests for guidance on how to improve the accuracy of data and record-keeping on other bases.

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Hurlburt's system includes pictures of its facilities and allowed the auditors to search for a specific facility on a map and receive access to all the layers of data related to that asset. The installation is one of only a few military bases to have a GIS specialist embedded in the Real Property Office. Additionally, AFCEC has determined the benefits of this capability is a

data analysis revealed that many pumping stations that support fire services were missing from the records. These findings, along with other discovered discrepancies, all contributed to increasing the amount of funding the base can qualify for under the FSRM report.

Thanks to the strength of the data in the GIS database, these discrepancies were found. Because the database allowed inspectors to view the install dates and number of units, it was possible to generate the documents to acquire those assets for FSRM purposes.

substantial value, and more of this approach is going to be adopted across the Air Force.

### AUDITING SUCCESS

Through the FSRM Report every year, billions of dollars are allocated to military installations at home and overseas, based largely on the square footage of buildings, pavement, and other physical assets. For 2020, the Air Force's proposed FSRM budget amounted to \$4.1 billion, while the total cost in the backlog of deferred maintenance for all its installations is estimated at \$33 billion. The data analyses and subsequent corrections at Hurlburt Field will result in additional future-year FSRM funding that could eventually total an estimated \$2.27 million if the Facilities Sustainment Model was fully funded.

### FREQUENT COMMUNICATION

It is important that GeoBase data analysts communicate directly and frequently with real property officers. The next step is to relink the GIS database with the real property database to make it easier to spot discrepancies.

Moving forward, when funding comes up for renewal every year at Hurlburt Field, it is going to be based on current data, not based on what was allocated last year. The desire is that the progress seen at the base becomes a standard operating procedure to help other Air Force installations review their FSRM reports, find similar anomalies, and communicate their findings with personnel at those locations.

Systematic and repeatable results can provide the fuel needed to promote GIS data analysis and data integration at the enterprise level.

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