

FY99/00 Tri-Service CADD/GIS Technology Center Projects  
November Update

CORE MISSION

**96.003**      **FGDC Participation**      **(Ongoing project)**      **\$ 75K**  
Center POC: Laurel Gorman (601) 634-4484  
Corps POC: Nancy Blyler (202) 761-8893

Center coordinates and funds participation for tri-service representatives at the Federal Geographic Data Committee (FGDC) meetings and FGDC Working Group meetings. Center actively participates in resolution of action items addressed by various subcommittees. Center provides particular support to the FGDC Facilities Working Group, which focuses on installation level standards and GIS needs.

**Status:** Center is reviewing Accuracy Standard, Part 4. Key FGDC activities will be included in the next CADD/GIS Bulletin. There are concurrent activities among the FGDC Working Groups (WG) and Subcommittees (SC) including:

**General** - Center and Tri-Service POC's attending respective Subcommittee Mtgs. The Facilities Working Group was awarded funding for FGDC Standards Development including 4 sets of standards - FGDC Utilities Data Content Standard, Environmental Hazards Data Content Standard, Facility ID Standard, Accuracy Standards for Facility Mapping, and a CADD SDTS Profile.

- **Coordination Working Group** - **Kevin Backe gave a presentation on Web Mapped Testbed (WMT) project. Kevin recommended pilot projects to take testbed results to production.**
- **Cultural and Demographic Subcommittee** - New task group formed. Air Force and CERL actively participating on this group. Center will coordinate to be added to membership list in support of ongoing cultural resource standards work.
- **Facility Working Group** - **The Facilities Working group has been integrated with the Center, and members will work within Center FUGs.**
- **Earth Cover Working Group** - Center (L. Gorman) and TEC (Bill Blake) are actively participating on this group. The group is working on modifications to the Earth Cover Standards proposal and a survey of potential users of the standard. **The Center submitted comments on revised formal proposal for the Earth Cover Classification Standards (ECCS). Disseminating review of draft proposal throughout DoD. Will test the draft ECCS using REEGIS project. A comparison of the USACE land use, vegetation, and wetlands classification with the ECCS will be done by January 1, 2000.**
- **Metadata Working Group** - Bill Blake of CETEC participated in this new committee hosted by the Bureau of the Census. The Working Group plans to return to a bimonthly schedule.

- **Geology Working Group -- Reviewing draft of Cartographic Geology Standard. Center is recommending that FGDC post this for wide dissemination. It is a useful standard for regional mapping and symbols for well logs. Does not conflict with Unified Soil Classification.**

**96.013 Tri-Service Spatial Data Standards (TSSDS) (Ongoing project) \$300K**

Center POC: Bobby Carpenter (601) 634-4572

Corps POC: Nancy Blyler (202) 761-8893

Continued development of TSSDS, which provides a common format for the development of GIS at DOD installations and civil works projects, which allows the sharing of data sets among DOD and non-DOD agencies. Develop and update technical content and symbology and develop an implementation Workshop. Includes development of a Tri-Service CADD/GIS Standards Strategic Development Plan, which will include CADD and Facility Management Standards as well as TSSDS.

**Status:**

**A. Component 1 - TSSDS Reporting, Coordination, and Customer Service.**

1. Project Coordination, Update and Maintain TSSDS Web Site, Update TSSDS Project Info on Web.

- A total of 284 comments, CD requests, and questions were received, recorded in e-mail Comments Web Accessible Database, and answered in FY99**
- Release 1.8 was completed in Feb 99; over 4,400 CDs were distributed.**
- Updated SDS project status web page on October 20, 1999 and November 29, 1999.**
- Updated SDS project web site in October and November 1999.**
- Updated the SDS/FMS Comments Database in October and November 1999.**
- Release 1.90 SDS/FMS alpha and beta complete. Review of the Beta SDS/FMS Release 1.90 was completed on November 8, 1999. Initial testing of Release 1.90 Browser and Generator was completed on November 29, 1999.**

**B. Component 2 - Develop and Update TSSDS Technical Content.**

- Military Planning. – Completed Military Planning Filter spreadsheet in August. Scheduled to be incorporated into Release 2.0.**
- Military Range and Training – Majority of revisions/additions from June review meeting were incorporated into Release 1.90. The remainder will be addressed in Release 2.00.**
- Comments and questions generated by SDS customers are being reviewed, researched, and answered. The SDS will be updated (to the extent of available funding) to incorporate SDS customer requests.**

**C. Component 3 - Develop and Update TSSDS Symbology.**

- a. Colors and Line Types – Were revised to match A/E/C CADD Standards in Release 1.90**
- b. Symbol Sets – AutoCAD, ARCINFO , and Microstation symbol sets were updated for Release 1.90.**
- c. When sufficient funds become available, ArcView symbol sets are to be developed to complement the current MicroStation, AutoCAD, and ARCINFO symbol sets.**

**D. Component 4 - Develop Implementation Workshops.**

- **TSSDS Implementation Workshop – June 22-25, '99 – 37 students**
- **TSSDS/REEGIS Integration Workshop – July 20-21, '99 – 17 students**
- **TSSDS Implementation Workshop – August 24-27, '99 – 32 students**
- **The next SDS Implementation Workshop has been scheduled for January 25 - 28, 2000.**

**96.015**            **Tri-Service Facility Management Standards (TSFMS)**            **\$375K**  
**(Ongoing project)**

Combined with 99.026 -- Leveraging IAI

Industry Foundation Classes in TSFMS (\$40K included above)

Center POC: Bobby Carpenter (601) 634-4572

Corps POC: Jean McGinn (202) 761-1052

Nancy Blyler (202) 761-8893

96.015 -- Develop CADD/GIS data content standards for installation facility life-cycle management and civil works operations and maintenance in accordance with the TSFMS Development Plan. Includes update of Development plan, development of TSFMS technical content, and development and update IDEF models.

99.026 -- Inform Facility Management (FM) Task Force of International Alliance for Interoperability (IAI) status on FM. Provide participation of one CEWES employee in the IAI FM Domain Group to assure progress at the IAI will address Tri-Service requirements to greatest degree possible.

**Status:**

**A. Component 1 - TSFMS Task Group.**

1. Conduct one TSFMS Task Group Meeting.

- a. TSFMS Task Group Meeting was held at the Tri-Service Center on April 7 - 8, 1999.
- b. Another TSFMS Task Group meeting was scheduled for September 1 - 2, 1999 at the Patuxent River Naval Air Station, Lexington Park, Maryland. This meeting was cancelled due to a reduction in FY99 FMS funding.

**B. Component 2 - TSFMS Reporting, Coordination, and Customer Support.**

- a. The FMS Project Status Web Page was updated on October 20, 1999 and**

November 29, 1999.

b. The FMS Project Web Site was updated in October and November 1999.

c. The SDS/FMS Comments Database was updated in October and November 1999.

**C. Component 3 - Develop and Update TSFMS Technical Content.**

**1. Research & Development of Space Management Data Standards.**

Delta Research was scheduled to provide the final report deliverable in October 1999. Space Management data standards are to be incorporated into a future release of the SDS/FMS.

**2. Research & Development of Communications Data Standards.**

Additional research & development of FM data standards for communications are scheduled to be accomplished in FY 2000.

**3. Research & Development of Utility Maintenance/Management Data Standards**

Research & development of FM data standards for utilities (e.g., water, sanitary sewer, storm sewer, electrical) are to be accomplished in FY 2000.

**4. Review and Incorporate Selected Approved DISA DoD Data Dictionary (DDDS) Data Elements into FMS.**

Approved DISA DoD DDDS data elements related to "Hydrography" are to be reviewed and incorporated into the SDS/FMS to the extent available funding permits.

**5. Research and Integration of FM Legal Reporting Requirements into FMS.**

When sufficient funds become available, review and develop integration (or linking) schema for PAX Work Item Management (Navy), NFADB, (Navy), IWIMS or ACES (Air Force), IFS-M (Army), and CEFMS (USACE). The accomplishment of this effort was postponed by the November 1999 Corporate Staff meeting.

**E. Component 5 - Develop and Update IDEF Models.**

**1. IDEF Models for the Beta SDS/FMS Release 1.90 were completed in October 1999.**

**2. Plans are to review and develop integration schema for incorporation of NIMA data models into SDS/FMS to the extent available funding permits. Priority: (1) Air Transportation, (2) Imagery, (3) Ground Transportation, (4) Water Transportation, (5) Water Features, (6) Cultural Features, (7) Physiography, and (8) Metadata.**

**F. Component 6 - Develop and Distribute Integrated TSSDS/TSFMS Release.**

**1. The Beta SDS/FMS Release 1.90 was completed on October 8, 1999. Review of the Beta SDS/FMS Release 1.90 was completed on November 8, 1999. Initial testing of Release 1.90 Browser and Generator was completed on November 29, 1999.**

**2. The November 1999 Corporate Staff meeting postponed SDS/FMS Release 2.0**



**d. Presentation to NAVFAC CADD Policy Meeting**

- **October 99 by Toby Wilson**

**e. National CAD Standard**

- **Second Edition started in September**
- **Toby Wilson, Steve Spangler on Second Edition Development Committees**

**98.245**      **AEC Tri-Service Object Standards (Ongoing project)**      **\$175**

Combined with 99.027 -- Unified Construction Specifications, Cost, Schedule and Design Visualization (\$75K included in total funds)

Center POC: Toby Wilson (601) 634-3995

Warren Bennett (601) 634-3604

Corps POC: Jean McGinn (202) 761-1052

98.245 -- Provides for participation of two representatives in IAI standard shaping effort to ensure that the minimal standards accepted by the IAI will satisfy Tri-Service requirements. The IAI is developing objects of common interest to the AEC community, which are defined as Industry Foundation Classes (IFC). Currently many software vendors are incorporating version 1.5 of the IFC into their products.

99.027 -- Provides for participation in IAI Domain Group on Project Management. Group will continue developing the IFC specifications for construction scheduling and for initializing schedules using cost estimating information. Last year the group completed IFC specifications for cost estimating. Included -- development of IFC extensions to provide bidirectional integration of construction cost estimating and scheduling with the object oriented model of a project. These standards will be used by commercial vendors to provide the capabilities of integration of CADD/cost/schedule.

**Status:**

- In 3<sup>rd</sup> Quarter FY99 awarded contract to Stanford University to investigate IFC 1.5 support of facilities management and project cost management applications and to validate IFC use in 3D CADD. Awaiting final report and demo.**
- Conducted Move Process Charrette's at CIFE, Stanford**
- In 4<sup>th</sup> Quarter FY99 FM Domain (Dave Horner chair) had two meetings -- Boston, MA (7-9 July 1999) and Vicksburg, MS (8-10 November 1999). At Boston meeting refined object model for Move Management for inclusion in IFC 2.X. At Vicksburg Meeting defined Object IFC's and integrated into release 2.X.**
- Project Management Domain Chair is Francois Grobler of CERL. This Domain created Construction Schedule process objects included in IFC Release 2.0. This domain developed three ongoing projects to complete in FY00.**
- Francois Grobler has been named the new Technical Coordinator for North American Chapters of the IAI.**

**MISSION RELATED**

**96.023      Generic Details Updates and Revisions (Ongoing project)      \$110K**  
Combined with 97.019 -- Coupling Generic Details Library  
with AISC Standard Connection Details (\$50K)  
Center POC: Stephen Spangler (601) 634-3104  
Corps POC: Jean McGinn (202) 761-1052  
Ray Navidi (202) 761-0223

96.023 -- Revise and update CADD Detail Library and the CADD Detail Manager. Review existing details, if required perform necessary modifications and cleanup. Update details available via the Internet.

97.019 -- AISC will provide approximately 200 Standard Connection Details in AutoCAD format to Center (Summer 1999). Center will assure AutoCAD details meet Tri-Service Detail guidelines. Center will convert to MicroStation Format, following Tri-Service Detail guidelines. Will be added to the Generic Details Library and provided to the AISC.

**Status:**

**Release 2.0 of the CADD Details Library has been completed. The master CD was sent off for duplication on 11/1/99. Due to a CD pressing delay, the CDs will be shipped to the Center for distribution NLT 12/10/99.**

**97.020      Planning Project Clearinghouse      (Ongoing project)      \$ 40K**  
Center POC: V. Danushkodi (601) 634-4452  
Corps POC: Nancy Blyler (202) 761-8893  
Blaise Grden (509) 527-7271

Continue development and expand the Web Site Clearinghouse for CADD/GIS users involved in Planning Activities.

Web Site includes:

1. Input on innovative uses of CADD/GIS Technology
2. Examples on how the technology was used and the type of study (Engineering, Regulatory, Facilities, etc.)
3. Abstract of study
4. Professions and offices involved
5. Benefits, problems and innovations with use of CADD/GIS.
6. Links to other sites when they exist.

**Status: Project Complete. Currently 98 projects are listed on the site. Additional projects can be entered.**

**97.022      Develop Guidance and Demonstrate Use of GIS      \$ 50K**  
**Technology for Environmental Restoration and Compliance Applications (Ongoing project)**



**Status:**

Savannah District completed Tri-Forma training and evaluation and provided comments to the Center on Standards Compliance.

Bentley met with Center in May to discuss bringing Tri-Forma into compliance with CADD Standard; need to resolve conflicts between Tri-Forma & Standards.

Report was received from Savannah on Tri-Forma.

**Need to resolve minor conflicts between Tri-Forma & Standards.**

**98.005      **Standard Data Format for Geotechnical and Geological Exploration (ongoing FY98 project)**      **\$ 50K****

Center POC: Laurel Gorman (601)634-4484

Corps POC: Nancy Blyler (202)761-8893

Eugene Tickner (504)862-2240

Determine a standard set of data requirements needed by the government Geotechnical/Geological engineering community. Research existing capability of existing software in use in DOD.

**Status:** Draft final report has been submitted to the Center by Mr. Charlie Whitten , WES Geotechnical Lab. Draft final report is out for comment. Report describes:

- Results of survey
- Available computer Software
- Suggested data items for all boring logs
- Sample boring data forms
- Soil/Rock Patterns from Tri-Service Standards

Purchased software and requested available demos of geotech log applications for evaluation in FY99. No funding approved for FY99.

**Funding for continuation of project approved by BOD in August.**

**98.045      **Continued Development of a Data/Project Management System for Survey Engineering (Ongoing project)**      **\$ 50K****

Center POC: Vaiyapuri Danushkodi (601) 634-4452

Corps POC: M.K. Miles (202) 761-8885

Arthur Bennett

Continue development of a utility to promote the management of survey control in partnership with the Topographic Engineering Center (TEC). Develop and/or enhance existing database schema, identifying the common data fields associated with TSSDS and governmental agencies producing survey engineering geospatial data products. Evaluate

processes for converting, linking, or interfacing the identified common data elements and develop procedures and software tools for the most efficient and cost effective process. Primarily a database of the location of all survey monuments with a link to the Web to allow DOD personnel, surveyors and the public to query for particular monument locations.

**Status:** The latest version of SEMMS and User's Manual can be downloaded from the Center's web site <http://tsc.wes.army.mil/products/semms.htm>

Intergraph delivered the improved software, Release 2.22. Some differences were noticed between SEMMS and TSSDS table structure. A CD containing the improved version of SEMMS can be distributed only after the differences are reconciled.

**A web enabled version of SEMMS software is available from the Center to serve the SEMMS database to the public through the Internet. The Web enabled SEMMS software has been installed at Memphis District.**

A CraDA is being negotiated with Beacon High-Tech Resources for SEMMS maintenance.

**98.125      **Integration of CADD and GIS Standards and Digital Data \$ 60K**  
**(Ongoing project)****

Center POC: Denise Bullock (601) 634-4574

Corps POC: Nancy Blyler (202) 761-8893

Jean McGinn (202) 761-1052

A detailed comparison of the Tri-Service A/E/C CADD Standards and TSSDS was performed and documented. A visual Basic application will be developed to correlate each A/E/C CADD Standard feature with its appropriate TSSDS feature. In FY00, with additional funding, procedures, tools, and the appropriate mechanisms for converting digital files from a CADD Format to a GIS format will be investigated and documented. In addition, procedures and tools will be developed to permit CADD drawings/details, and construction information, to be directly integrated and accessible to a GIS based operation/facility management system.

**Status: The CADD/GIS Viewer (CGViewer) has been developed to display the corresponding A/E/C CADD object information given the SDS feature; and to display the corresponding SDS feature information given the CADD object.**

**98.190      **Support & Implementation of Electronic Contract Solicitation \$100K**  
**(Ongoing project)****

Center POC: Elias Arredondo (601) 634-3140

Corps POC: Justin Taylor (202) 761-1246

Provide technical support to agencies implementing procedure. Research new technologies which will enable more efficient production of bid sets. Maintain central web site.





design analysis. The Bracing Wizard will contain pre-designed and drafted common forms of steel bracing systems, contained in a database system for use in conjunction with or independent of the Design Wizard. The CADD Wizard will use data generated by the Design and Bracing Wizards to generate 3D wire frame models and key drawings for projects. The Interactive Design Program will run within CADD & allow designers to interactively select and design structural elements.

**Status:**

- a. **A scope of work for the project was developed that modifies Frame Works to include a CADD Wizard for application and design of layout for single story steel structures.**
- b. **Contract awarded to Intergraph 30 September 1999.**
- c. **Intergraph has provided the first deliverable for the project in the form of an outline tool.**

**99.003      Implementation Guide Addendum (Ongoing project)      \$ 30K**

Center POC: Brian Perdue (601) 634-2286  
Corps POC: Nancy Blyler (202) 761- 8893  
Jean McGinn (202) 761-1052

Complete GIS Implementation Guide, which is in draft form. Guide will provide a step-by-step process to follow when implementing GIS technology on an installation.

**Status: Project was tied to development of the Hurlburt Field's GIS Implementation. The AF "GeoBASE" strategy redirected the efforts at Hurlburt. Consequently, the Implementation document was halted. A guide is being prepared by Center staff to address the development and maintenance of GIS at the installation level, which should be complete by the end of calendar year '99.**

**99.004      Inroads Preference Sets Conforming to the Tri-Service      \$ 18K  
CADD Standard \***

Center POC: Milton Richardson (601) 634-4580  
Corps POC: Phil O'Dell (206) 764-3776  
David Himmerich (612) 290-5574

Develop a set of customized InRoads preference files which will by default set the proper level assignments, colors, line symbology, and point symbols to conform to the Tri-Service AEC CADD Standards. InRoads is a civil design program used extensively within DOD for civil/site layouts. These preference files will be distributed on the Web and on CDs.

**Status: St. Paul District prepared the Preference Sets conforming to the CADD**

**Standards. Product was completed and distributed on the web site 13 September 1999.**

**99.008      **MicroStation File Manager \***      **\$ 28K****

Center POC: Stephen Spangler (601) 634-3104  
Corps POC: Jean McGinn (202) 761-1052  
John Kincaid (309) 794-5492

Develop an application for MicroStation to assist CADD users creating/using/organizing file names in compliance with the Tri-Service A/E/C CADD Standards. Additionally, the application will allow renaming of old design files and their reference files, and will automatically create an index sheet of design files within a project.

**Status: Project is complete. Will be included on the A/E/C CADD Standard Release 1.8 CD.**

**99.009      **As Built's \***      **\$ 10K****

Center POC: Capt. Robert Lim (601) 634-4226  
Corps POC: Phil O=Dell (206) 764-3776  
Ken Buck (202) 761-8833  
John Kincaid (309) 794-5492

Perform a survey of Installations (all services) to determine how as-built files are currently used, any desired additional uses, and what problems exist with currently supplied electronic as-built files. Visit selected installations. Investigate desirability of providing as-built's in a raster format rather than CADD native file format. Publish a report of findings and provide recommendations for design agents and installations.

**Status: This project has been changed to a "white paper" for use of digital as-built drawings. The outline is complete. The paper will cover each type of digital technology that may be used for as-built's and aits appropriate use. Sample contract language will be included.**

**99.012      **A Developer=s Guide for Producing and Publishing Engineering Documents \***      **\$ 78K****

Center POC: Toby Wilson (601) 634-3604  
Corps POC: Phil O=Dell (206) 764-3776  
Mike Watson (901) 544-3898

Produce a developers= guide for software vendors to outline user requirements for producing and publishing engineering requirements and provide the programmers information

on the meaning of and relationships between the data within engineering drawings to enable them to develop and provide us with intuitive and powerful automated solutions to document production. This document will enable developers to understand the problems encountered by users and provide appropriate solutions. Development of the guide will require the generation of a typical process flow diagram for engineering document production.

**Status:** *Final draft is on the web site for review and comment. This project was accomplished by Mike Watson of the Memphis District.*

**99.013      Development of a Civil/Site Engineering Solutions Manual \*      \$ 70K**

Center POC: Vaiyapuri Danushkodi (601) 634-4452  
Corps POC: Phil O'Dell (206) 764-3776  
David Himmerich (612) 290-5574

Create an Engineering Solutions Manual that documents design methods for common civil/site layout problems, using the most common civil design programs in the DOD community. The manual would document the problem, one (or several) methods of solution and provide workflow wizards, decision tables and other supporting aids. The initial manual will include 10-20 common design problems.

**a. Status:** *The project is complete. The final Solutions Manual and the resources have been posted at the Center's web site. This project was accomplished by the St. Paul District and the Corps Civil Field Action CADD (FAC) Group.*

**99.017      Quantity Distance Radius (QDR) Management      \$ 50K**

Center POC: Bryan Perdue (601) 634-2286  
Corps POC: Rik Wiant (703) 428-6086  
Randall Mayne (817) 978-3446

Develop procedures and tools to maintain QDR safety arcs around explosives magazines. Develop a library of magazines that include the QDR arcs and the utility safety buffers for AutoCADD and MicroStation. Update the TSSDS to meet individual QDR Arcs, a combined QDR Arcs and utility safety buffers. Develop MGE (Intergraph) and AML (Arc/Info) macros for combined QDR arcs and utility safety buffers.

**Status:** *The final draft is on the military planning homepage for review.*

**99.019      Develop a User Interface to the TSSDS that Assists      \$ 35K  
Field Agencies in Integrating the Standards into their  
Daily Work**

Center POC: Nancy Towne (601) 634-3181

Corps POC: Nancy Blyler (202) 761-8893

Create a groupware interface on the Tri-Service CADD/GIS Technology Center Web Site that enables individual activities to query other sites about their experiences in the use and implementation of the TSSDS at their installations for master planning. Information about existing GIS systems will be posted.

**Status:**

This project was done by the Corps of Engineers, Rock Island District. **The final delivery, an interactive web site, was 4 November 1999. The SDS interface interactive web site is a hotlink on the Center's home page. Users need to input data.**

**99.023          Standards and Criteria Revision Documentation \*          \$ 30K**

Center POC: Stephen Spangler (601) 634-3104  
Corps POC: Jean McGinn (202) 761-1052  
James Roberds (912) 652-5600

Develop a methodology for identifying and detailing the rationale for changes made to current CADD criteria (A/E/C CADD Standards, symbology, and details) and linking changes to an archived repository of replaced criteria. This program to begin with any changes made to current criteria.

**Status: The Access database has been developed and populated with revision information. A link between the Standards .pdf files and the database was successfully tested using both Explorer and Netscape. Once the Center receives the final .pdf files from our Visual Production Center all links will be created and available to the field. This database is dynamic enough, that any future changes to the standard can be easily added to the database and a new link established to the standard .pdf file.**

**99.029          Automation of USGS Digital Data into TSSDS          \$ 20K**

Center POC: Nancy Towne (601) 634-3180  
Corps POC: Nancy Blyler (202) 761-8893

Develop a software conversion routine to convert U.S. Geological Survey (USGS) 1:24,000 and 1:100,000 digital mapping data into a database structure compatible with the TSSDS. This will facilitate the conversion of the USGS Digital Line Graphs (DLG) quad sheet digital data into a MGE or ARC/INFO data set in conformance with Spatial Data Standards. USGS base data (Hydrology, Transportation, Public Lands Survey, etc) is one of the most complete digital data sets available for use with many civil works and military GIS





Savannah District has developed the Spatial Data Retrieval System (SDRS) on the MicroStation with MGE platform and the ArcView with ArcInfo platform. This project will take each of these platforms and develop a database driven system w/user manuals to enable offices supporting a GIS project at a particular site to populate a database in compliance with the SDS and set up the user friendly SDRS application.

**Status: Need to coordinate with Savannah District - Ricky Truluck. Ricky will provide monthly updates on status.**

**00.007          Development of a Civil/Site Virtual Center of Expertise          \$ 72K**  
Center POC: Dr. V. Danushkodi (601) 634-4452  
Corps POC: Jean McGinn (202) 761-1052

Develop a Web Site for a Virtual Center of Expertise for Civil/Site design, which will provide resources to assist designers in the transition from “apprentice” to “journeyman” progress. The site will provide access to real design solutions, proven solution methods, efficiency tools and willing experts from the DOD community to assist in finding answers to civil/site layout problems.

**Status: The originator, David Himmerich, St. Paul District, has been contacted to prepare a description and schedule.**

**00.014          Utilizing SPECSINTACT to Implement Standard EBS          \$ 10K**  
**Amendment Process**  
Center POC: Elias Arredondo (601) 634-  
Corps POC: Justin Taylor (202) 761-1246  
Freddie Rush (601) 634-5936

Merge the SPECSINTACT automated amendment process (when development is complete) with EBS to implement a standard amendment process.

**Status: The Center has contacted the proponent to define the scope for the project.**

**00.020          Tri-Service Web Access to USGS Digital Quad Maps          \$ 50K**  
**and DEM Data**  
Center POC: Dr. V. Danushkodi (601) 634-4452  
Corps POC: Nancy Blyler (202) 761-8893  
Ron Santos (410) 962-2043

Develop a Web Site to make USGS Digital Raster Graphics (DRG) and Digital Elevation Model (DEM) data available to all Federal offices. Actions included are: define



developing a detailed requirements document, identifying functional enhancements and modifications required to expand the existing software suite and make it generic. Year two: Identify discreet items of work for software development/conversion and WWW development, and contract for development. Develop standards for loading of DGPS aerial photo camera coordinates directly into Federal aerial photo databases. Final product will be a standardized software suite in a Windows environment for aerial photo flight planning, collection and management.

**Status:** *No status available*

**00.028 Furniture Data Web Site \$ 35K**  
**w/Links to Contract Catalogs and Design Software**

Center POC: David Johnson (601) 634-3509  
Corps POC: Jean McGinn (202) 761-1052  
Marsha Walkup (816) 983-3230

Develop data models and attribute definitions for use by Federal Supply Schedule contractors and the Federal Prison Industries (FPI). Develop a web site with links to all furniture vendors who possess a Federal Supply contract, FPI, and other mandatory furniture sources. Vendors to supply the Center with electronic information required by Government designers about specific items in the format identified by the Government. Obtain data from manufacturers who do not have web sites to post on the Center web site.

**Status:** *This project is currently in the strategy plan stage.*

**00.32 Development of an Interface Between the SDS and \$ 80K**  
**The DoD Ground Water Modeling System (GMS)**

Center POC: Bobby Carpenter (601) 634-4572  
Corps POC: David Koran (202) 761-4989  
Sam Bass (402) 697-2654

Develop an interface to allow extraction of field data from a SDS compliant database and load it into the DOD Ground Water Modeling System (GMS) for modeling use.

**Status:** *The preparation of a Design Document which will outline the detailed technical requirements for this effort was funded in FY99. The Design Document is being prepared by the Army Engineer Research and Development Center's Geotechnical and Hydraulics Laboratories.*

**00.033 Airfield Management \$ 50K**

Center POC: Bryan Perdue (601) 634-2286  
Corps POC: Rik Wiant (703) 428-6086



### **Operations & Maintenance Information**

Center POC: Denise Martin (601) 634-4574  
Corps POC: Rik Wiant (703) 428-6086

Develop a prototype Document Type Definition (DTD) for the Facilities Maintenance and Operations Standard which will address electronic delivery of manufacturers' product information, utilization of COTS Computer Aided Facility Management (CAFM) drawings and COTS Computer Maintenance Management systems (CMMS). Research development of CADD design standards or recommended practices for capturing manufacturing data from design through construction, to integrate the development of electronic as built files. This product should result in elimination of re-keying design and manufacturing data and produce intelligent as-built files.

**Status: A scope of work is currently being developed in conjunction with NAVFAC representatives. A detailed MS Project schedule has been developed.**

**00.048      Evaluation of Object Oriented Technology      \$ 25K**  
**(ArchiCAD Demo at Rock Island)**  
Center POC: Ken Cook (601) 634-4483  
Corps POC: Jean McGinn (202) 761-1052  
Stan Shirk (402) 221-4557

Evaluate ArchiCAD software through the use on a Corps design project. Probable site for test is Rock Island District, which is currently testing Bentley's TriForma product. Possibly Savannah District, which has already evaluated Tri-Forma on a design project.

**Status: Scope of work has been developed. Will be done at Omaha District.**

### **MISSION SUPPORT**

**96.001      Publishing the CADD/GIS Bulletin (WEB)      \$ 10K**  
**(Ongoing project)**  
Center POC: Laurel Gorman (601) 634-4484  
Corps POC: M.K. Miles (202) 761-8885  
Jean McGinn (202) 761-1052

Provide articles from the Center staff and field users on CADD/GIS related issues and publish them semi-annually (March and September) in an electronic newsletter posted on the Internet.

**Status: Final Bulletin for FY99 was completed and posted on the Web. Next issue due January 2000. Proposed articles as follows:**



**A/E/C Systems again this year.**

**96.200 Support ESG, EWG, FTAG, and FWG (Ongoing project) \$350K**

Center POC: Dave Horner (601) 634-3106

Corps POC: Eugene Tickner (504) 862-2240

Organize and coordinate the activities and meetings of 7 selected FWGs. Two meetings scheduled per group per year. Provide support for FTAG, EWG, and ESG meetings, funding travel for members attending meeting. Prepare and distribute meeting minutes for FTAG, EWG, and ESG meetings. Prepare documents and provide individual group members with information at their requests. Approximately 13 meetings to be held by the FTAG, EWG, and ESG during FY99.

**Status:**

**The Corporate Staff met at Patuxent River 15-19 November. They are scheduled to meet 7-11 February at Vicksburg, 22-26 May in St. Louis, and 10-14 July in Colorado Springs.**

**The first meeting of the Board of Directors will be held 20 January in Washington, DC.**

**Future meetings will be scheduled at that time.**

**The Field User Groups, Construction/Design, Natural/Cultural Resources , Facility Management , Systems , Environmental , Civil Works, and Military Planning will each meet once individually, and attend a joint meeting in May with the Corporate Staff in St Louis, MO at the Symposium.**

**96.210 Equipment (Maintenance Support) (Ongoing project) \$200K**

Center POC: Milton Richardson (601) 634-4580

Corps POC: M.K. Miles (202) 761-8885

Jean McGinn (202) 761-1246

Maintain and upgrade Center equipment and software.

Maintenance contracts \$102,000

Labor \$ 71,000

New Hardware & Software \$ 27,000

**Status: Software Maintenance required for:**

- **Bentley**
- **ESRI**
- **Intergraph**
- **Microsoft**
- **Geo-Research-Geolink**

**Windows 2000 Issue:**

- **Upgrading will be an issue due to current hardware. Some machines in use**

**are less than 200 Mhz (10 are 133 Mhz).**

**99.021 Awareness Seminars**

**\$ 50K**

Center POC: Dave Horner (601) 634-3106  
Corps POC: M.K. Miles (202) 761-8885

Provide education and training on the importance of spatially based information at the facility and installation level by developing an instructional course on the why=s and how=s of implementing facilities life-cycle management practices at the base/installation level. The course will include a strategy for convincing the leaders of the importance of spatially based information management tools in achieving installation life cycle management. Course will be portable (on CD ROM) and adaptable to distance learning. This is to be a partnering project with funding from multiple tri-service proponents.

**Status: Contract Modification to accomplish phase 2 awarded in September. Prof. Baecker, U. of Maryland is developing Lecture Materials, Interactive CD and WEB information. Course plan, Syllabus & background and lecture modules 1 & 2 complete and received 2 Nov. Prototype web site for course complete. Revised schedule as follows:**

- **Lecture Modules 3 & 4** **22 Nov 99**
- **Lecture Modules 5 & 6** **15 Dec 99**
- **Final web site for course** **15 Dec 99**
- **Interactive CD ROM of web site** **30 Dec 99**
- **Lecture Modules 7 & 8** **15 Jan 00**
- **Class Notebook** **15 Feb 00**

**99.035 Balanced Scorecard Implementation**

**\$ 30K**

Center POC: Denise Bullock (601) 634-4574  
Corps POC: M.K. Miles (202) 761-8885  
Jean McGinn (202) 761-1246

**Status: The FY2000 Project Plan has been completed and approved. Center continues to collect data for performance metrics.**

**00.046 Tri-Service Symposium and Exposition for FY00**

**\$100K**

Center POC: Toby Wilson (601) 634-3604  
Corps POC: Nancy Blyler (202) 761-8893  
Jean McGinn (202) 761-1052

The Center will organize and coordinate the fourth Tri-Service CADD/GIS/FM Symposium and Exposition. Responsibilities include arrangements for the hotel, speakers,

presentations, hardware/software requirements, advertising, etc. Possibly will contract out symposium arrangements to a firm experienced with coordinating this type of large activity. Initial contact has been made with the Conference Planning Group at USDA. Center retains charge of locating and acquiring appropriate speakers and demonstrations for the Symposium.

**Status: The Center is currently developing a brochure regarding the Symposium. The brochure will contain: information about the location, how to register, how to submit an abstract for presentation, and how to reserve exhibit space.**

**The Center is also developing a Web page regarding the Symposium. Visitors to the site will be able to register online and submit abstracts for presentations. The Web site is scheduled to be active on 12/6/99.**

**The first meeting of the Symposium committee was held in November at TEC.**