

**FY99/00 Tri-Service CADD/GIS Technology Center Projects
April 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.
Facility Code ID standard and Shoreline Metadata Standard is up for review. MK sent FGDC response on behalf of Corps of Engineers.
- **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. **Dr. Paul Green of Langley is keeping Center informed of activities. Group has not had a meeting this FY.**
- **Bathymetric Subcommittee - M.K. Miles and Kevin Backe (CETEC) are leading efforts to develop the International Hydrographic Standards. New Chair is scheduling a meeting for Feb. Shoreline Metadata Standards out for public review. Laurel will be submitting comments and compiling comments from the rest of WES.**
- **FGDC Feature Registry - Project has been demonstrated to several FGDC Working Groups and Subcommittees for their endorsement.**
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- **Facility Working Group** -. The Facilities Working group has been integrated with the

Center, and members will work within Center FUGs.

Center and TEC are addressing and modifying the Utility Content Standard. Accuracy Standard, Part 4 is out for technical review. FGDC approved reorganizing The Facilities Working Group to the Facilities, Infrastructure, and Environmental Working Group..

- **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.
- **Geology Subcommittee - Center received comments from Mr. Klosterman, HQ Geologist . Reviewing these HQ comments and forwarding to Kevin Backe. Requesting digital copy for dissemination throughout the Corps. A digital copy will be provided for the Public review phase. Will request hard copy for dissemination to Geotech POCs for their review. Comments will be sent to Laurel Gorman at the Center.**
- **Standards Working Group - Ongoing Review of FGDC draft standards and proposals for standards projects including: Draft SDTS Part 5. Raster Profile and Extensions Standard, Draft Metadata Profile for Shoreline, Draft Earth Cover Classification System Standard, Draft Geospatial Positioning Accuracy Standards, Draft Digital Elevation Data Standard, Draft Digital Orthoimagery Standard, Proposal for a Road Data Model Standard, Proposal for Governmental Unit Boundary Standard.**

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. A total of 284 comments, CD requests, and questions were received, recorded in e-mail Comments Web Accessible Database, and answered in FY99
- b. Release 1.8 was completed in Feb 99; over 4,400 CDs were distributed.
- c. **1,500 CDs were available for distribution on January 31, 2000. In February 2000, the Release 1.90 CDs were distributed to the Center's Corporate Staff and FUG members, the SDS & FMS Registered Users, and to others as requested.**
- d. Updated SDS project status web page on October 20, 1999, November 29, 1999. **December 30, 1999, January 19, 2000, February 24, 2000, & March 17, 2000.**
- e. **The SDS project web site was updated each month from October 1999 - March 2000. The SDS Web Site was totally redesigned in January 2000. The SDS/FMS Software and Models web sites were totally redesigned in January - February 2000.**
- f. Updated the SDS/FMS Comments Database in October – **March 2000...**

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

- a. Military Planning. – Completed Military Planning Filter spreadsheet in August. Scheduled to be incorporated into Release 2.0.
- b. 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.
- c. 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. **ArcView symbol sets are being developed to compliment the current MicroStation, AutoCAD, and ARCINFO symbol sets. This effort began on March 14, 2000.**

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
- **TSSDS Implementation Workshop - January 31 - February 2, 2000. 33 students**
- **The next SDS Implementation Workshop is scheduled for July 25 - 27, 2000.**

E. Component 5 - Review and Test SDS.

- 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. **Testing of the Final Release 1.90 Browser and Generator was completed on December 17, 1999.**
- **In October - November 1999, the completeness of the USACE REEGIS and SDS integration effort was tested by migrating the New Orleans District's REEGIS GIS for Atchafalya Basin to the SDS/FMS Release 1.90.**
- **In December 1999 - January 2000, the completeness of the USACE REEGIS and SDS integration effort was tested by migrating the Vicksburg District's REEGIS GIS to the SDS/FMS Release 1.90.**
- **The Beta SDS/FMS Release 1.95 was scheduled to be completed and ready for testing on March 31, 2000. CD-ROMs containing the Release 1.95 are to be available for distribution to attendees of the May 2000 Symposium.**

F. Component 6 - SDS ANSI Standard.

- **In November 1999, the ANSI NCITS committee approved the concept of pursuing adoption of a SDS/ANSI Standard.**

G. Component 7 - SDS Related Meetings and Briefings.

- **Center personnel attend frequent meetings for the purpose of providing presentations concerning the SDS, and where SDS issues and activities are discussed.**
 - 1. Nancy Towne and Denise Martin attended a meeting at Camp Shelby, Mississippi on November 10, 1999.**
 - 2. Bryan Perdue attended the AF Command Planners Meeting at AFCEE, Brooks AFB, San Antonio, Texas on November 16 - 19, 1999.**
 - 3. Center hosted a SDS/ESRI GeoDataBase Object Meeting on November 17, 1999. Denise Martin is Center POC.**
 - 4. Bobby Carpenter attended a meeting at NIMA Headquarters, Bethesda, MD on December 14, 1999.**
 - 5. Bryan Perdue met with representatives of Keesler AFB, Gulfport, MS on March 9, 2000 to discuss Airfield features and requirements.**

H. Component 8 - Incorporation of SDS into Corps CDM.

- Not funded in FY 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.

1. The FMS Project Status Web Page was updated on October 20, 1999 November 29, 1999, **December 30, 1999, January 19, 2000, February 24, 2000, and March 17, 2000.**
2. The FMS Project Web Site was updated in October **– February 2000. The FMS Web Site was totally redesigned in January - March 2000.**
3. The SDS/FMS Comments Database was updated in October **– March 2000.**

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. **Delta Research provided the final report deliverable on December 8, 1999. The review period ended on January 31, 2000.**
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.
 - **Approved DISA DoD DDDS data elements and NIMA attributes related to "Air Transportation" were reviewed in February 2000.**
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.

- **The review and development of integration (or linking) schema for PAX Work Item Management (Navy), NFADB, (Navy), IWIMS or ACES (Air Force), IFS-M (Army), and CEFMS (USACE) began on March 14, 2000.**

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, **(completed in March 2000)**, (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. **Testing of the Final Release 1.90 Browser and Generator was completed on December 17, 1999. The final Release 1.90 was available for download from the Center's Web Site on December 17, 1999. The Release 1.90 CDs are scheduled to be available for distribution (request only basis) by February 2000.**
2. The November 1999 Corporate Staff meeting postponed SDS/FMS Release 2.0 Application development efforts until March 2000, or later.
3. **The Beta SDS/FMS Release 1.95 was scheduled to be completed and ready for testing on March 31, 2000. CD-ROMs containing the Release 1.95 are to be available for distribution to attendees of the May 2000 Symposium.**

G. Component 7 - FMS Related Meetings and Briefings.

Center personnel attend frequent meetings for the purpose of providing presentations concerning the FMS, or where FMS issues and activities are discussed.

1. Bobby Carpenter met with Utilities Management personnel at Brooks AFB, San Antonio, Texas on November 3, 1999.

2. A FM Strategic Planning Meeting was held at the Center on January 5 - 6, 2000. Denise Martin is Center POC.

3. Center personnel received brief training in the use of ESRI ArcInfo 8 (ESRI's first Object GIS release) on January 11 - 14, 2000. Laurel Gorman is Center POC.

96.017 **A/E/C Standards (Ongoing project)** **\$255K**
Center POC: Toby Wilson (601) 634-3604
Corps POC: Jean McGinn (202) 761-1052

Continue development of A/E/C CADD Standards and attributes. Includes nongraphic database development, coordination with the developing National CADD standard, and training on the MicroStation workspace (2 classes).

Status:

- a. The A/E/C CADD Standard, Release 1.80, **all chapters and appendices**, has been completed and approved and been made available in .pdf format on the Center's web site.
- b. Also, 15 of the 16 symbol libraries have been released in .cel format. The final .cel library and all AutoCAD symbols will be available by December 15. **All of the symbol libraries have been released in .cel format.**
- c. The final Workspace delivery to Center is scheduled for 12/1/99
 - **Received Workspace 1.2 for review on 2/7/2000. Review comments submitted to Bentley on 2/9/2000.**
 - **Received Workspace 1.2.1 for review on 2/14/2000. A lot of bugs were fixed, such as text cells are no longer caught as being wrong by the Checker and custom line styles can be added to the library. Review comments sent on 2/14/2000 to Bentley. Awaiting final delivery.**
 - **Received Workspace 1.3 on 3/17/2000. Currently under review by Center and**
 - **select Corps sites. If Workspace passes final testing, it will be posted on the Internet on 4/3/2000.**
- d. The second A/E/C Workspace Training for System Administrators class was held at the Center on October 26-27, 1999. Sixteen Corps of Engineers' administrators attended the class.

96.055 Support of NIBS CADD Council (Ongoing project) \$ 20K
Center POC: Toby Wilson (601) 634-3604
Corps POC: Jean McGinn (202) 761-1052

Provides coordination with industry to ensure consistency between DOD standards development and private/commercial industry. Supports participation of Tri-Service staff in NIBS CADD Council quarterly meetings.

Status:

- a.** Toby Wilson attended the November 99 **and February 2000** Facilities Information Council meetings.
- b. Scheduled Meetings for CSI/UDS
 - January 00 Scheduled
- c. Presentation to Southeast CSI Conference
 - Sept 99 by Toby Wilson
- 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:

- a. In 3rd 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.
- b. Conducted Move Process Charrette's at CIFE, Stanford
- c. In 4th 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.
- d. 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.
- e. Francois Grobler has been named the new Technical Coordinator for North American Chapters of the IAI.
- f. **Finalized the Move Management process and object model, released model to IAI technical staff for implementation.**
- g. **Participated in the first aecXML meeting on Jan 13 in Chicago, IL. Minutes contain the results of the meeting.**
- h. **Completed final model of the Move Process, Feb 14-17.**
- i. **Completed first draft on new project "Costs, Accounts, and Financial Elements in FM"**
- j. **Submitted eight projects to the Center for FY01 consideration to accelerate the current work.**

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:

- a. 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.

b. **The Center had the remaining details in the CADD Details Library converted to metric. The metric details were delivered on 1/25/2000 and are currently under review. Marsha Walkup from the Design/Construction Field Users Group has reviewed the Interior Design metric details and made comments. These comments are being resolved and the revised details will be posted around mid-April.**

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.

- **The SOW was revised to reflect final project budget.**
- **During this FY, the focus of the project will be on managing archived geotech logs and cross-sections using databases, document management, and geospatial technologies.**
- **Coordinating with key District POCs: Mike Watson (Memphis District), Karen Pitchford (Jacksonville District), and Larry Ludwig (Omaha District), Eric Woerner (Vicksburg District), and Mike Klosterman (HQ Corps of Engineers).**
- **Coordinating with WES POCs: Maureen Cochran, Danny Harrelson, and Charlie Whitten of Geotechnical Lab.**
- **Taking current 1836 form for boring logs and creating SDS-compliant database.**
- **Investigating key field for lab analysis and report output by the project engineer.**
- **Revised project page at <http://tsc.wes.army.mil/products/geotech/default.asp>**

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>

1. 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.
2. 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.
3. A CraDA is being negotiated with Beacon High-Tech Resources for SEMMS

maintenance.

4. **Installation of Memphis District's Web enabled semms is complete with both Graphics search and Text only search options. An ACCESS file consisting of all USGS quads within the District and 530 quad images in GIF format needed for the Web enabled semms were provided to the District.**
5. **Modified web enabled semms to incorporate HQ comments and obtained HQ approval for the software.**
6. **Created a test web site for Vicksburg District NGS data:**
<http://tsc.wes.army.mil/products/semms/mvksurvey/mvksemms>
7. **A contract is being processed through St Louis District Survey section to revise SEMMS**

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.

Completed testing and debugging of CADD/GIS Viewer. Documentation and installation software are currently being prepared.

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.

Status:

- a. A meeting was held at HQUSACE PARC office on 23 November to discuss Standard Procurement System (SPS) issues.

- b. The Center is testing a method to automatically pull solicitation information from each EBS Web Site and generate a central database for all solicitations. This will make it easier for contractors to locate a particular solicitation.
- c. As of 8 November
 - 23 Corps Districts are using standard web pages.
 - 2 Corps Cistricts are converting to standard web pages
 - 15 Corps Districts are not using standard web pages
- d. **The Center is in the process of developing the necessary code to integrate EBS and ASFI. The Vicksburg District will be used as a test site.**
- e. **The Center is working with Army Materiel Command (AMC) to integrate EBS and the Army Single Face to Industry (ASFI). They are also be working with CRREL to continue to develop and enhance the EBS Web pages.**
- f. **The TSN Home page has been updated to make it more user-friendly and to use a more updated interface.**

98.200 Smart Reduction of Mass Points (X,Y,Z) to a Minimum Set \$ 50K

Center POC: Vaiyapuri Danushkodi (601) 634-4452
 Corps POC: M.K. Miles (202)761-8885
 Greg Hughes (202)761-4140

Develop a program that determines which data points are redundant and which points, if removed, would have a cumulative degradation of the data. Determine which commercial programs do similar tasks. Use these programs to thin the data in several collected data sets; analyze the thinned data to determine the values of each method.

Status: BTG/Delta Research did a software search and evaluation. The following software packages were evaluated against the same criteria:

- Sounding Reduction (Coastal Oceanographics)
- QuickSURF (Felix CAD OEM Graphics Package)
- Digital Optimization of GRID Systems (DOGS) (NOAA)
- ArcView Spatial Analyst (ESRI)
- River Analyst (Beacon Resources)
- InRoads (Intergraph Corp.)

Final report is in review. Findings were coordinated with TEC.

No change in status since November

98.220 Utilities for the Tri-Service Workspace for AutoCAD \$ 50K
(Ongoing project)

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

Complete development of the Workspace for AutoCAD. The Workspace provides a utility to facilitate implementation of Tri-Service AEC CADD Standards in drawing production. Development of a Workspace for MicroStation was completed in FY98.

Status: A meeting is scheduled between the contractor working on the MicroStation Workspace, Bob Phillips from the Coast Guard (who is working on the AutoCAD version) and Center personnel. This meeting will allow the contractor to explain the way MicroStation uses the database created by the Center and the design of the Access generated ASCII file. Personnel working on the AutoCAD version of the workspace will have the opportunity to address the developers to produce a similar function using the same ASCII file. The main programmer for the MicroStation Workspace has resigned and the contractor is in the process of bringing other personnel up to speed on this project. The Center waiting on code being sent from contractor, Delta Research for an understanding of the program design. The Center has produced a breakdown of the ASCII file generated from the Standards Access database and used by MicroStation to set up its TSWS Workspace to incorporate the standards.

- 1. The work to complete the AutoCAD Workspace has set a deadline for having a demo version ready for the St. Louis Symposium at the end of May). A beta test Version should be ready for release shortly afterwards.**
- 2. Bob Phillips will be working with David Johnson of the Center to combine the CECADD and the Standards file reader which inserts the Standards Layer information into AutoCAD. The process of converting from AutoLISP to Visual Basic will be the main focus, as will be adding in current standards Block and Hatch Pattern Information.**

98.224 **DOD Plant Database
(Ongoing FY98 Project)**

\$50K

Center POC: V. Danushkodi
Corps POC: Edward Racht (202)761-8816
Stan Shirk (402) 221-4557

Create and make available on the Internet a DOD Horticulture/Plant Database with color images and appropriate attribute technical data on each plant. Provide query capability by a variety of fields to enable users to locate installation specific appropriate plant listings with all pertinent correlating data. Each plant within the database will include field attributes on a variety of correlated technical issues to include: Visual color image, Botanical/Latin name, Common name, plant type, mature height, mature spread, soil type, soil pH, fertilizers, blooming color/season, zone, installation, location, water requirements, drainage, solar exposure, landscape use, disease/pests, and growth habit.

Status: The contractor has developed the web site with data from 11 installations. The Beta test web site was posted for review and comments were received. The final web version is available for review at www.bakerprojects.com/planningdocs/.

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. **Comments from review have been incorporated into the final draft and draft is being coordinated through channels for approval.**

**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.

No change in status since November.

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.

Applications

Center POC: Laurel Gorman (601) 634-4484
Corps POC: Nancy Blyler (202) 761-8893
Lonnie Mettler (509) 527-7268

Two year project. Identify existing sensitive species databases being used or in the process of being developed by all State and National Natural Heritage Programs. Develop common guidelines for linkage of geospatial technology to the species databases. First year will focus on capturing existing database structures, developing a work plan and look for partnering opportunities inside and outside the tri-service community. Second year will define the translation process, build a translation module and implement field applications.

Status: Natural and Cultural Resources FWG is pursuing outside sources for funding this project. Funds were not available from Center funds in the 4th quarter when the SOW was finalized.

No change in status since November.

99.032 Aerial Photography Management System * \$ 60K

Center POC: Nancy Towne (601) 634-3180
Corps POC: Bill Bergen (202) 761-1553

Two year project. Using collection of software developed by New Orleans District (DOS-base) as functioning prototypes, develop a modernized, integrated aerial photo management system for DOD use. System to support both industry photogrammetric standards and government spatial data standards.(APSRs & TSSDS) First year will focus on developing a detailed requirements document, identifying functional enhancements and modifications required to expand existing software suite to be generic. Identify discreet items of work for software development/conversion and contract for development with Corps FOA=S=s, Laboratories and industry with expertise in subject areas. Year two will focus on developing standards for efficiently loading DGPS aerial photo camera coordinates directly into DOD aerial photo databases.

Status:

The project was awarded to Michael Baker.

The first deliverable, a spreadsheet of 18 interviews with field professionals, was received on 25 October. The second deliverable, an implementation and software plan using SDS schema and symbology, was received 10 November. An interim submission of two files containing an implementation plan for JBPhoto and AIRFLOP and an evaluation of the camera system software was received 30 November. Final delivery is scheduled for January 31, 2000.

The final deliverable was received on March 1, 2000. Michael Baker, Inc., the contractor for this project, did not spend all of the funds so the project was extended until July 2000. An extended Statement of Work was developed which consists of development of an optimum feature matrix and list from the two Aerial Photography Layout systems reviewed in Phase I deliverable.

Phase 2 is under project 00.027.

00.004 Spatial Data Retrieval System \$111K

Combined with 00,035, Map Filters for Tri-Service Mapping Guide and Geospatial Data

Center POC: Bryan Perdue (601) 634-2286
Corps POC: Nancy Blyler (202) 761-8893
Richard Truluck (912)-652-5521

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. **Project schedule was received. First increment of funding transferred to Savannah District so they could begin the project. SOW has been submitted waiting next installment of funding so we can transfer additional funds to Savannah. Estimated date of funds transfer 15 Apr.**

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. **SOW received from the originator and is being reviewed.**

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.

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00.032 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, [and the Environmental Modeling Research Laboratory at Brigham Young University. The draft Design Document was submitted on January 4, 2000. The Center's Environmental FUG completed a technical review of the report on January 10, 2000. Currently on hold awaiting funds.](#)

00.033 Airfield Management \$ 50K

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

Using existing COTS software, develop an SDS compliant database that identifies airfield obstructions in tabular and graphic formats. Database will identify and categorize temporary and permanent obstructions and other data related to its maintenance and identification.

Status: Project is in the review stages. Several more current applications have surfaced since this review has started. All of which need to be reviewed for content and applicability to our intent. TERPS criteria seems to be the most prevalent problem - NIMA has a contract to due an Airfield survey for TERPS criteria. Some overlap can occur especially in the

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.

Symposium agenda was developed at Symposium committee meeting 16 March.
Agenda is posted on the internet. Second brochure is ready for distribution.