

Facility Management Standard (FMSFIE)

for facilities, infrastructure, & environment

Strategic Development Plan

Updated at September 17–18, 2002 FM Focus Group Meeting

FMSFIE Strategic Development Plan History

- **January 2000** – FM Focus Group meeting to prepare draft FMSFIE Strategic Development Plan.
- **October 2000** – SWG meeting to update FMSFIE Strategic Development Plan.
- **November 2000** - Corporate Staff approved FMSFIE Strategic Development Plan.
- **December 2000** – FM Focus Group meeting to develop Proposed FMSFIE Framework.

FMSFIE Strategic Development Plan History

- **January 2001** – FM Focus Group developed Transactional FMSFIE Conceptual Data Model.
- **November 2001** – FM Focus Group completed draft Logical Data Models for “Assets/Facilities” & “Assets/Facilities/Buildings/Architectural”.
- **December 2001** – FM Focus Group incorporated OSD Real Property Data Model.
- **January 2002** – FM Focus Group meeting to develop FMSFIE Naming Conventions.

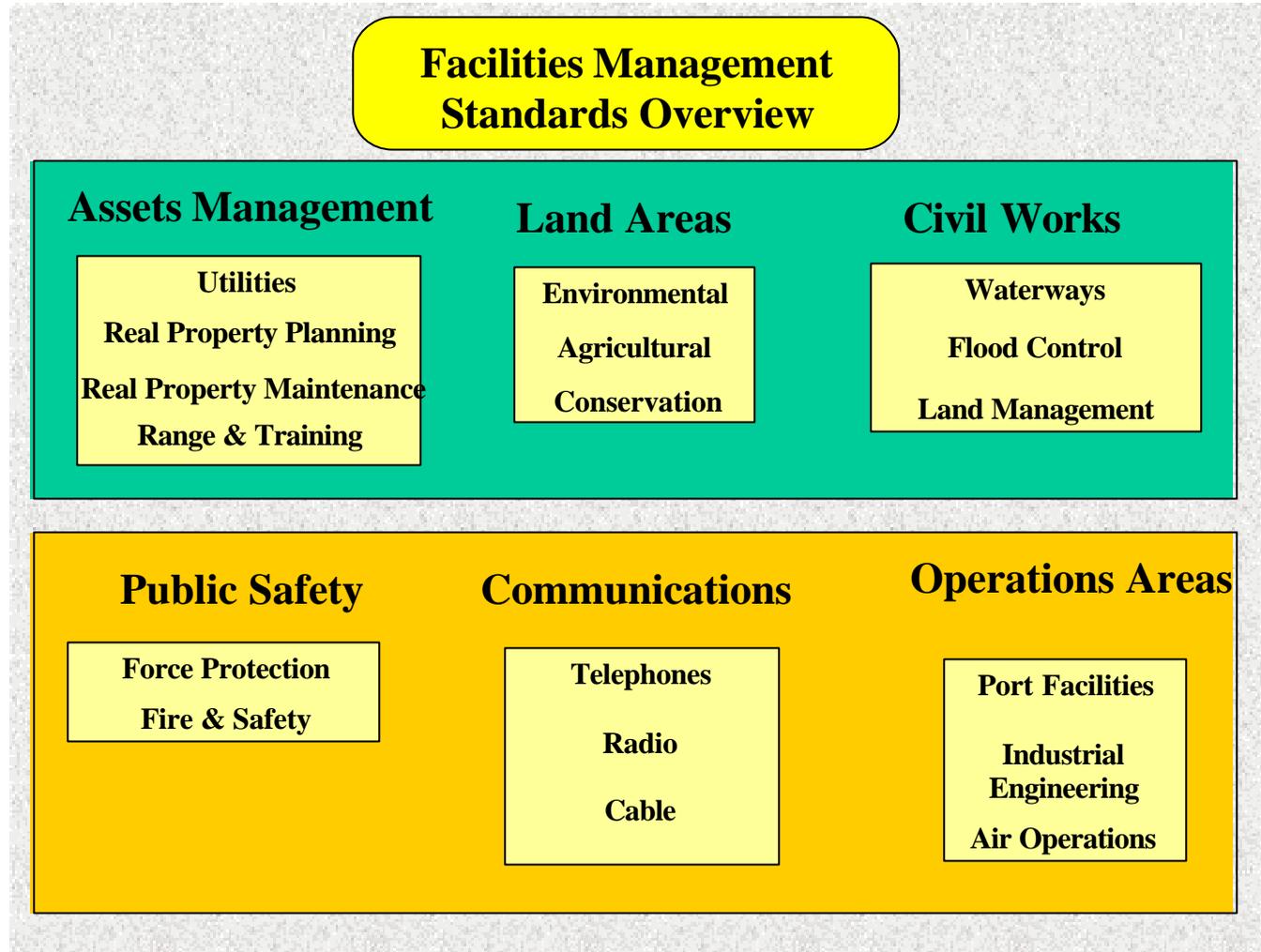
FMSFIE Strategic Development Plan History

- **July 2002** – FM Focus Group completed **Logical Data Models for “Assets/Facilities/Buildings”** (Architectural, Structural, Electrical, Plumbing, Mechanical, Telecom, Security, Fire Protection, Interior Design)
- **August 2002** – FM Focus Group completed **Physical Data Models for “Assets/Facilities/Buildings” & “Assets/Facilities/Buildings/Architectural”**.
- **September 2002** – FM Focus Group meeting to update **FMSFIE Strategic Development Plan & plan 1st Transactional FMSFIE Release.**

Corporate Staff Definition

Focus areas This is within the Facilities, Infrastructure and Environment Business Plan for the Center

Work with the **Associated areas** as the need to support the **Focus area** development.



FMSFIE Strategic Plan

- The FMSFIE will consist of a relational database schema and data dictionary for data describing the control and reporting of real property and derived entities that must be considered in its use.
- The FMSFIE will provide overall guidance for developing and managing data standards for FM while working toward a object orientation
- The FMSFIE will establish the shared vision for FM by outlining the goals, and associated objectives and strategies to accomplish the standardization of FM data.
- This will be defined by the Core Focus Areas and Associated areas.

Goals & Objectives of the FMSFIE Strategic Plan

Goal 1. The standard should foster joint cooperation and collaboration between governments and industry that will allow interoperability.

Objective 1.1. Develop a working relationship with commercial FM vendors and integrators to ensure that the standard will be used with commercial products.

Objective 1.2. Encourage and solicit support of commercial vendors in adopting FM Standard as their default data model.

Objective 1.3. Ensure consistency with other National and International Standards.

Objective 1.4. Coordinate FM Standards development with other standards development organizations.

Objective 1.5. Enable data interoperability between commercial FM technologies (for example CADD, GIS, CMMS, CAFMS).

Goals & Objectives of the FMSFIE Strategic Plan

Goal 2. The standard should be customer driven, flexible, modular, and maintainable

Objective 2.1. Ensure FM standard meets the needs of the facilities, infrastructure, and environmental communities.

Objective 2.2. Stay abreast of current and future CADD/GIS/FM technological developments.

Objective 2.3. Utilize centralized configuration management.

Goals & Objectives of the FMSFIE Strategic Plan

Goal 3. The Standard should promote consistency within the Center's Facilities, Infrastructure, Environmental standards

Objective 3.1. The FM standard must be aligned with existing SDSFIE and AEC CADD Standards (short-term).

Objective 3.2. Consolidate SDSFIE, AEC CADD Standards and FM standards (long-term).

Objective 3.3. Promote benefits of using the standard.

Objective 3.4. Facilitate effective communications among users.

Goals & Objectives of the FMSFIE Strategic Plan

Goal 4. The standard should provide a framework which supports asset management, civil works and land management (focus areas).

Objective 4.1. Provide the capability to capture temporal data.

Objective 4.2. Maintain an efficient FIE model that defines the scope of FM focus and associated areas (operations area support, communications support, public safety).

Objective 4.3. Develop a transactional relational data model which will support multi-user environments with large user bases.

Goals & Objectives of the FMSEIE Strategic Plan

Goal 5. The standard should provide support for Life Cycle management process (From Planning to Disposal)

Objective 5.1. Incorporate the approach of just-in-time delivery.

Objective 5.2. Define and publish major activities (business lines) of Life Cycle Management.

Objective 5.3. Facilitate the data transfer between CADD/GIS Technology Center's business lines.

Life Cycle Management Major Activities

1. Planning

2. Real Estate

**3. Capital
Improvements**

4. Environmental

5. Housing

6. Operations

**7. Contingency &
Emergency**

8. Privatization

**9. Technology
Transfer**

Life Cycle Management

Major Activities

<p>Planning</p>	<p>Addresses project development and regional, master, & environmental planning. Also, addressed are real property master planning; space management; and real property classification, disposition, and maintenance.</p>
<p>Real Estate</p>	<p>Provides information on the policies and laws affecting government real estate and real property. Addresses real estate services for the DoD and other Federal agencies and real estate assets during national emergencies.</p>
<p>Capital Improvements</p>	<p>Addresses programming, engineering, design, and construction activities for new or improved facilities and structures. Includes ocean and coastal engineering, shore protection, flood protection, ports, and watershed topics.</p>

Life Cycle Management Major Activities

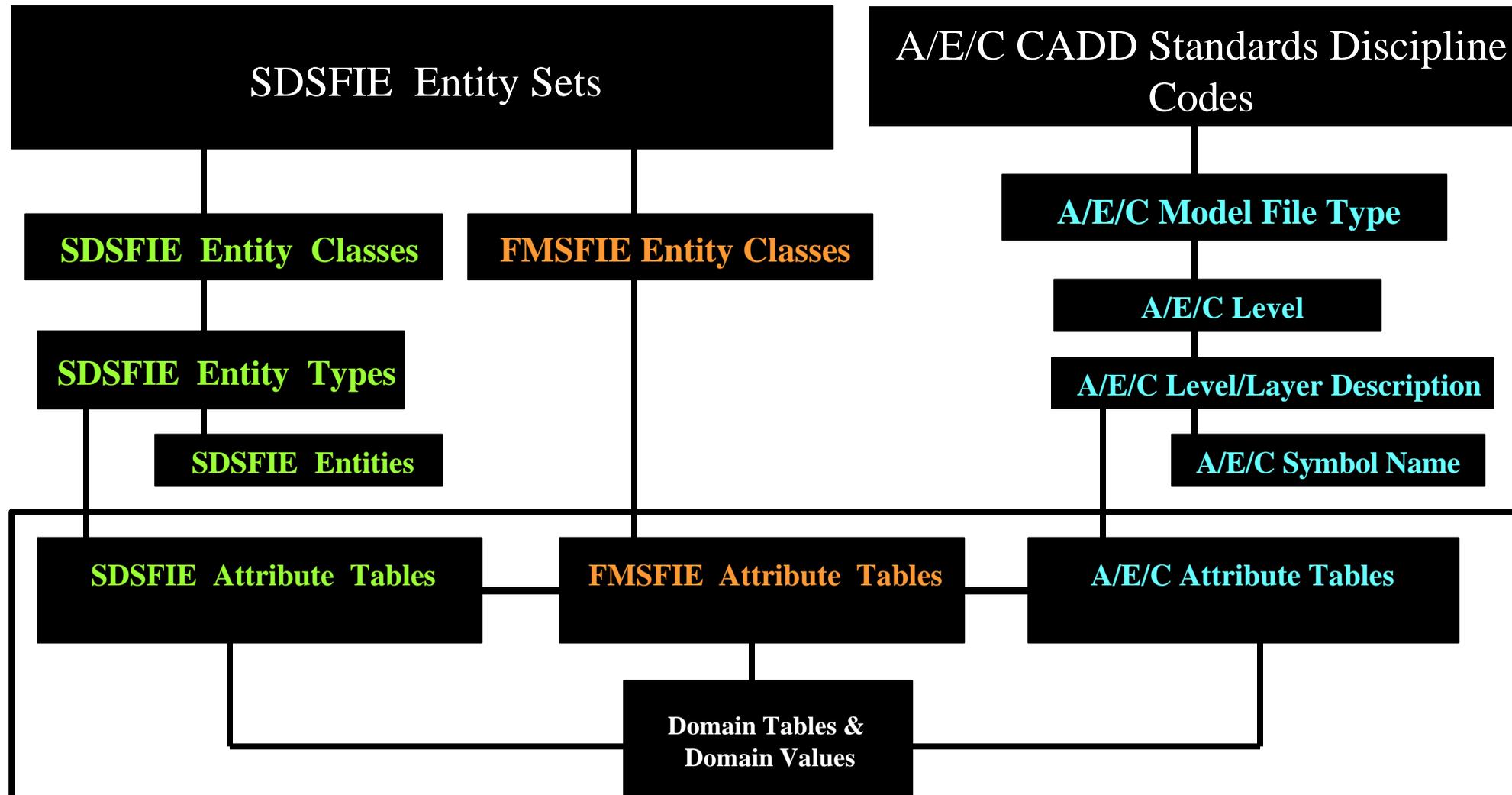
Environmental	Includes conservation, pollution prevention, restoration, compliance activities and programs, and the sustainment of watershed eco-systems.
Housing	Addresses the management of resources providing lodging and quality of life services.
Operations	Covers activities not included in other Life Cycle Management activities (business lines) including the management of infrastructure, transportation, facilities maintenance and engineering, utilities and energy management, and disposal actions.

Life Cycle Management Major Activities

Contingency & Emergency	Includes activities and provides information relating to contingency and emergency management issues, including mobilization support. Direct real estate purchase information during emergency times is found in the real estate section.
Privatization	Addresses the shift of functions from the government to the private sector.
Technology Transfer	Addresses the insertion and integration of technology into an organization with minimal disruption of business processes and operations.

CADD/GIS/FM Standards Data Model

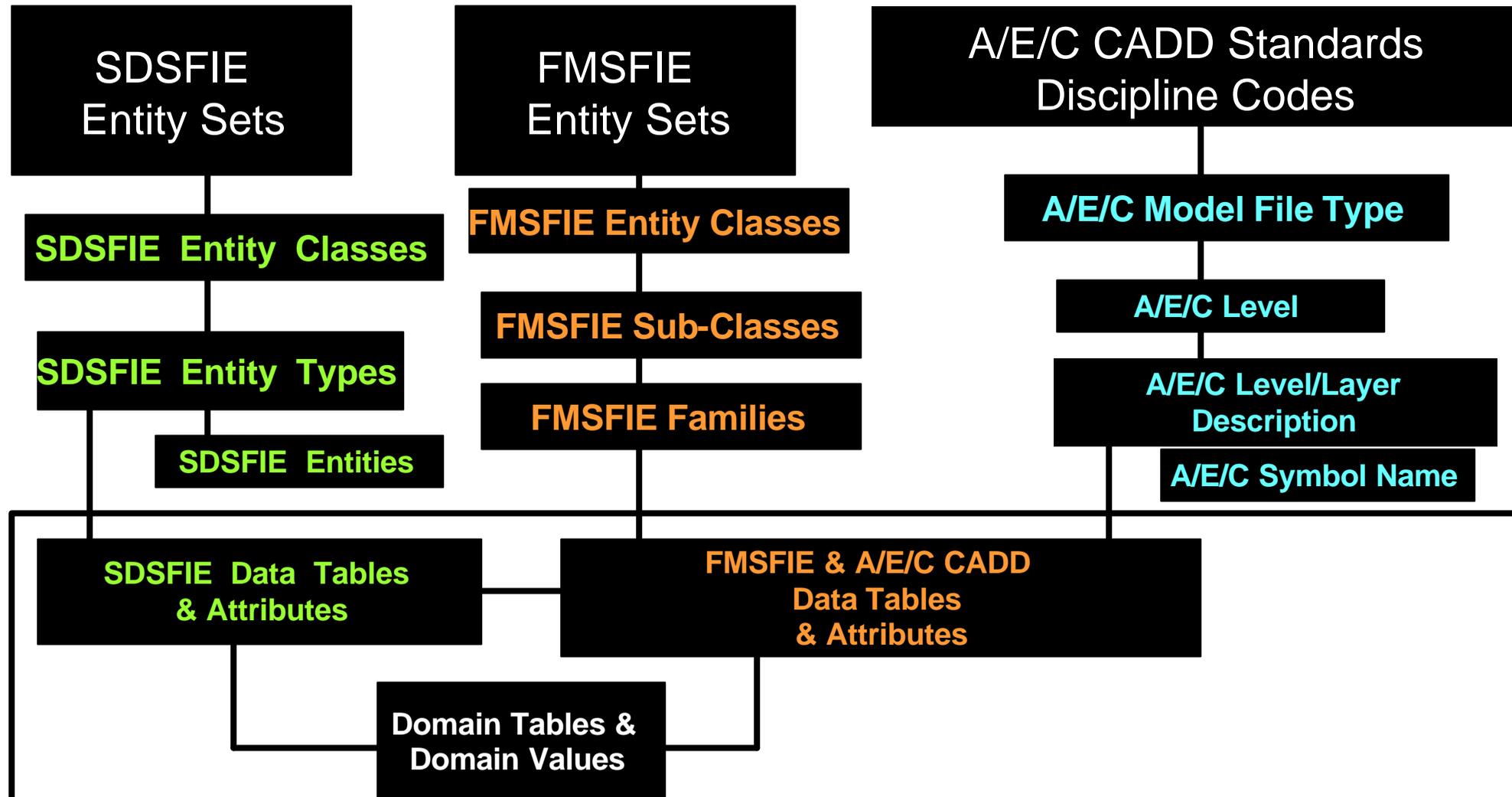
(Concept for initial incorporation of FMSFIE with SDSFIE & A/E/C CADD Standards. Began with TSSDS/TSFMS Release 1.80, February 1 999)



CADD/GIS/FM Standards Compliant Database = One Integrated Relational Database Structure

CADD/GIS/FM Standards Data Model

(Concept for incorporation of Transactional FMSFIE with SDSFIE & A/E/C CADD Standard. 1st Release of Transactional FMSFIE scheduled for FY03)



CADD/GIS/FM Standards Compliant Database = One Integrated Relational Database Structure

Facility Management Standard Framework What is It ?

FMSFIE Framework

The framework defines the basic structure of the FMSFIE in terms of entity sets, entity classes and entity subclasses. The definitions have been crafted to provide a migratory structure to support transition to one common CADD/GIS/FM standard.

The Entity Set/Entity Class organizational convention was selected to support the concept of source to target mapping. This is necessary to build an integrated environment that can support Geospatial information as well as Non-Geospatial referenced graphic information that can be interfaced with Transactional non-graphic data.

FMSFIE Framework

The overall goal of this framework is to support on-going short-term integration efforts as well as the long-term goal of a Federal CADD/GIS/FM standard to support the business focus of Facilities, Infrastructure and Environment.

The framework will facilitate the evolution to an object-oriented approach that includes both assembly relationships (has-a relationships) and categorization relationships (is-a relationships).

FMSFIE Framework

Definitions

Entity Set: Broad grouping of real property management responsibilities.

Entity Class: Sub-grouping of an Entity Set providing a grouping of similar real property classifications based on legal reporting requirements.

Subclass: Sub-grouping of an entity class based on similar life-cycle event and temporal real property information.

Family: Sub-grouping of a subclass based on similar life-cycle event and temporal real property information.

FMSFIE Entity Set Definitions

Assets: items comprising the federal real property inventory and other related entities based on classification and need to support organizational requirements. Includes:

- (1) tangible items comprising the federal real property inventory that can be referenced by location;
- (2) non-tangible items that cannot always be defined by a location, or do not exist as an inventory item in the real property management inventory.

FMSFIE Entity Set Definitions

Work: change management processes that consist of planning, programming, acquisition, operations, maintenance, revitalization, evaluation, and disposal actions affecting real property and other related entities.

Environmental: defines the stewardship responsibilities as they relate to the federal real property environmental management practices.

FMSFIE Entity Set Definitions

Financial: planning, programming, and execution of appropriations associated with real property management.

Public Safety: Issues related to the protection of personnel and property.

Organization: a structured grouping of personnel and the roles they perform as it relates to an integrated work environment.

Information Security: controlled access to data and information as it relates to the roles of personnel.

FMSFIE Framework (proposed)

Entity Set	Entity Class	Subclass
Assets	Facility	Building
		Structure
		Utility
	Equipment	Industrial
		Minor Property
		Personal

FMSFIE Framework (proposed)

Entity Set	Entity Class	Subclass
Assets	Land	Improved Semi-Improved Unimproved Other Easement

FMSFIE Framework (proposed)

Entity Set	Entity Class	Subclass
Assets	Transportation	Material Handling Equipment Vehicles Weight Handling Equipment
	Non Tangible	Proposed Leases Proposed Assets

FMSFIE Framework (proposed)

Entity Sets	Entity Classes	Entity Subclasses
Work	Construction	Alterations Improvements Repair/Demolition Maintenance
	Equipment	Installation Maintenance Disposal
	Lease	Building Relocatable Equipment Land

FMSFIE Framework (proposed)

Entity Sets	Entity Classes	Entity Subclasses
Work (cont.)	Operations Service	Transportation Utility Airfield Real Estate Range & Training Design Inspection Custodial Moves

FMSFIE Framework (proposed)

Entity Sets

Financial

Entity Classes

Civilian Workforce

Contracts

General

Material

Training

Travel

Entity Subclasses

FMSFIE Framework (proposed)

Entity Sets	Entity Classes	Entity Subclasses
Environmental	Conservation	Watershed/Source Water Wetlands Management Cultural/Historical Resources Endangered Species Fish/Wildlife Forestry Land Use Management Public Education Recreation

FMSFIE Framework (proposed)

Entity Sets	Entity Classes	Entity Subclasses
Environmental	Conservation (cont.)	Habitats/Ecosystems Pest Control Erosion Control/Shoreline Horticulture Landscape Field Sample Collection Lab Sample Analysis Field Sample Analysis Results & Validation
	Sampling	

FMSFIE Framework (proposed)

Entity Sets	Entity Classes	Entity Subclasses
Environmental	Pollution Prevention	Fuel Hazardous Material Risk Management
Environmental	Restoration	Preliminary Assessment Site Assessment Confirmation Study Record of Decision State Coordination Remedial Design Remedial Action Long-Term Monitoring UXO Clean-up

FMSFIE Framework (proposed)

Entity Sets	Entity Classes	Entity Subclasses
Environmental	Compliance	NPDES Permits Air Emission Permits Solid/Hazardous Waste Regulated Storage Tanks Drinking Water Quality Right-to-Know Toxic Releases NEPA/Sustainable Dev. Asbestos Noise Environmental Audits Air Quality Toxic Substances

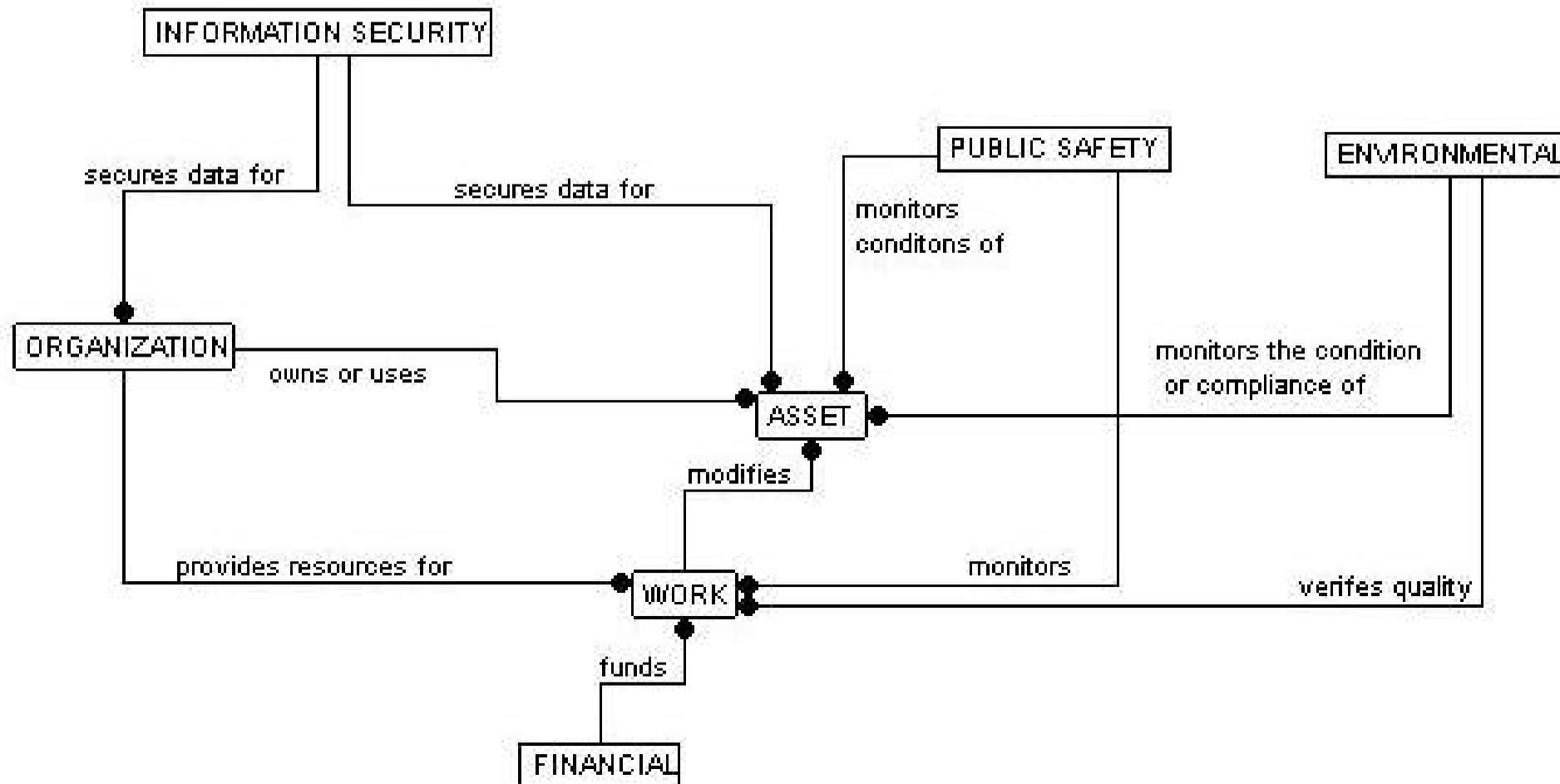
FMSFIE Framework (proposed)

Entity Sets	Entity Classes	Entity Subclasses
Public Safety	Explosives	Ordnance Inventory Mishap UXO
	Fire	Suppression Prevention
	Environmental	Training Ergonomics
	Force Protection	
	Occupational Safety & Health	
	Emergency Response	

FMSFIE Framework (proposed)

Entity Sets	Entity Classes	Entity Subclasses
Organization	People	Civilian Military Contractors
Info Security	Roles Workflow Applications Databases Networks	

Conceptual “Transactional” FMSFIE Logical Model



• **FMSFIE Development, Component 4 (Project No. 96.015) –** Support development of Transactional “Assets” Entity Set.
Priorities are:

- Facilities Class, Buildings Subclass.
- Facilities Class, Utilities Subclass.
- Facilities Class, Structures Subclass (roads and airfields focus).
- Land Class
- Transportation Class

• **FMSFIE Development, Components 1, 2, & 3 (Project No. 96.015) –** Support development of software tools, database tables, and guidance for one transactional FMSFIE release. Also support integration with SDSFIE and A/E/C CADD Standards.

FMSFIE FY 03 Tactical Plan

- **FMSFIE Development, Component 5 (Project No. 96.015)** – Support development of the Real Property Regulations website which serves as a central source for identification of the Legal Reporting Requirements on which the transactional FMSFIE is to be based.
- **FMSFIE Development, Component 6 (Project No. 96.015)** – Support development of Transactional “Environmental” Entity Set.

- **Development of FMSFIE Entity Set for Work Execution (Project No. 01.039)** – Support development of Transactional “Work” Entity Set.
- **Use of GIS to Simplify Environmental Impact Analysis Process (Project No. 01.040)** – Support development of portion of Transactional “Environmental” Entity Set focusing on “Environmental Compliance Class”, “NEPA Subclass”.

- **FMSFIE Development, Component 4 (Project No. 96.015) –** Support development of Transactional “Assets” Entity Set.

Priorities are:

- Facilities Class, Utilities Subclass.
 - Facilities Class, Structures Subclass (roads and airfields focus).
 - Land Class
 - Transportation Class
- **FMSFIE Development, Components 1, 2, & 3 (Project No. 96.015) –** Support development of software tools, database tables, and guidance for one transactional FMSFIE release. Also support integration with SDSFIE and A/E/C CADD Standards.

- **FMSFIE Development, Component 5 (Project No. 96.015)** – Support development of the Real Property Regulations website which serves as a central source for identification of the Legal Reporting Requirements on which the transactional FMSFIE is to be based.
- **FMSFIE Development, Component 6 (Project No. 96.015)** – Support development of Transactional “Environmental” Entity Set.
- **Development of FMSFIE Entity Set for Work Execution (Project No. 01.039)** – Support development of Transactional “Work” Entity Set.