

June 21, 2022

MEMORANDUM

TO: M. Katherine Banks, Ph D.
President

FROM: Stephen Franklin
Working Group Chair



SUBJECT: Implementation Memo – Working Group # 25

Recommendation to be Implemented:

“Create a Division of Facility Information Systems to maintain information in support of TAMU operations.” President Banks: “Accept Recommendation with modification – Rename Division.”

Strategic Considerations:

The proposed, Facilities Analytics & Mapping (FAM), will report to the Vice President for Facilities, Health, Safety and Security (VPFHSS) and steward three enterprise systems specific to geospatial and facilities-related data. Its Mission is: “*To support the Texas A&M University vision through the collection, organization, analysis, and reporting of facilities and geospatial information.*”

Core Responsibilities:

- State reporting and compliance (space and utilization)
- Space, move analysis and support
- Campus map and GIS data management
- Facility document management

Strategic Implementations: *See *Addendum A - Definitions*

- Implement new Integrated Workplace Management System (IWMS)
- Coordinate campus GIS standards and processes
- Establish a facilities/infrastructure Engineering Document Management System (EDMS)

Logistical Issues Addressed:

The proposed organizational structure reflects FAM’s three planned enterprise systems: GIS, IWMS, and EDMS, each with a lead reporting to the Director and with system-specific managers, analysts, coordinators, and technicians. Staffing options have been developed for future systems build-out considerations and for career ladders. *See *Addendum B - Org Chart and Position Title List*

FAM will closely coordinate space communications with all on and off campus stakeholders and VPFHSS departments: Facility Management (FACM), Campus Planning Design and Construction (CPDC), Environmental Health and Safety (EHS), Utilities and Energy Services (UES). *See *Addendum C - Stakeholders*

Existing budget components were inherited for operational purposes from previous departments but will need increased support for new responsibilities and staffing. Additionally, new strategic implementations will require initial stand-up costs and ongoing funding.

Major Challenges Encountered and Resolutions:

A major challenge for FAM is the department's broad scope of impact and the significance of having accurate space data. Reconciling past data sharing challenges will require cultural changes and increased recognition of the value that accurate, up-to-date, and complete data has for campus operations.

Challenges:

- Identifying and understanding existing data silos and their contents
- Lack of consistency in processes results in poor data integrity
- Complex IT infrastructure and support
- Limited enforcement capability
- Timing of state reporting requirements
- Communication and stakeholder expectations in processes
- Culture of siloed operations

Resolution for the above identified challenges will come from VPFHSS and the new centrally operating model. FAM, FACM, and CPDC will provide framework for collaborative solutions.

Solutions:

- Bring together data owners/stakeholders and data into centralized systems (Meridian/Archibus/GIS)
- Standardize processes for data collection and validation (Archibus/GIS)
- Dedicated facilities IT support group and network structure
- Clear structure of ownership and responsibility for campus space information
- Collaborative processes with internal and external departments
- Continual communication and process improvements with key stakeholders

Key Logistical Issues to be Completed and Timeline:

For FAM and its systems to become operational, several key logistical issues were identified. See *Addendum D – Logistical Issues, incl. Supplemental Summaries*

Phase I – Complete Prior to September 1, 2022

- Stand Up New FAM Office, incl. Location Prep and Support Infrastructure – (Ph I)
- Coordination of GIS Infrastructure, Data and Standards – (Ph I)
- Transition to New, Integrated System-of-Record for Space Inventory – (Ph I)

Phase II – Completed Prior to May 15, 2023

- Reconciliation of Floor Plans with Tabular Space Inventory Data – (Begin in Ph I; Cont. thru Ph II)
- Scan Validation of Floor Plans / Building Models – (Strategic Plan in Ph I; Execution in Ph II)
- Scaling the EDMS to an Enterprise Level – (Strategic Plan in Ph I; Execution in Ph II)
- Develop and Deploy New Space Inventory Survey and Reporting Process – (Ph II)
- Investigate Cost Rate Impacts for AUX and other System Parts – (Ph II)
- Determine Access, Controls and Permissions in Archibus – (Ph II)
- Establish Data Feeds from New System-of-Record – (Ph II)



Phase III- Completed Prior to FY24

- Academic Support Opportunities (and Strategic Partnerships) – (Ph III)
- Complete Initial 3D Scan Validation and Transition to Sustaining Validation Model – (Ph III)

Approved:

A handwritten signature in black ink that reads 'M. K. Banks'.

M. Katherine Banks, Ph.D.
President

June 26, 2022

Date

ADDENDUM A – Definitions

IWMS – The Integrated Workplace Management System would be a newly implemented system that integrates and improves upon the capabilities of two existing sets of campus space-related data – the tabular space inventory database and the graphical set of campus life-cycle management floor plans. This tabular-graphical integrated system would become the new System-of-Record used for mandated annual reporting of space-related data to the Texas Higher Education Coordinating Board; would track space quantities, geometries, types, and assignments; would provide directional and bi-directional data feeds to other operations and administrative systems such as AggieWorks, FAMIS and Workday; and would deliver integrated analysis capabilities and applications such as move management, space survey, key control, and a mobile platform for facilities management.

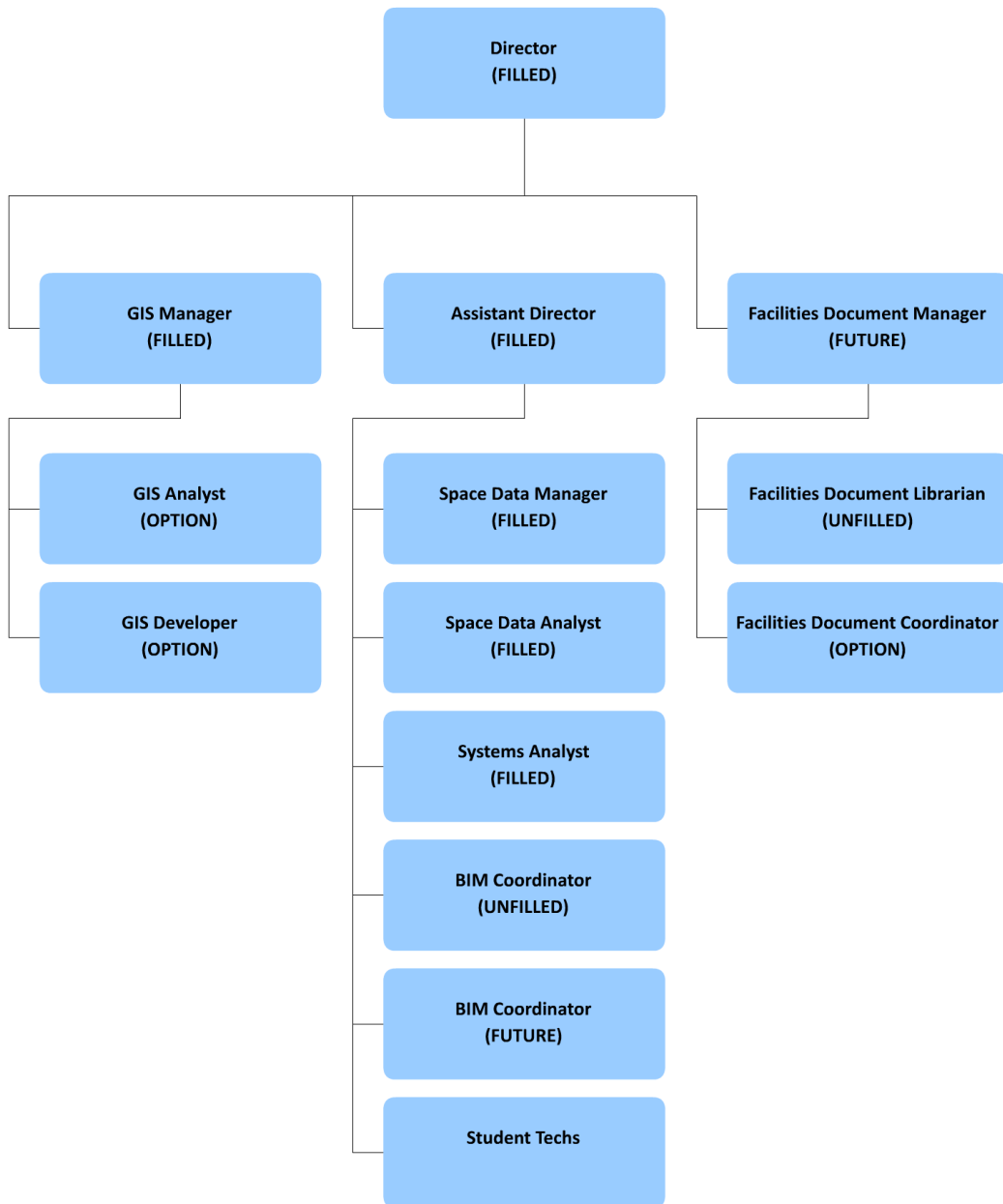
GIS – The Geographic Information System (GIS) management component of the FAM group would be responsible for coordinating the maintenance and validation of the campus base map and its features, providing a framework for GIS data managed by other operational entities such as UES, EHS, Transportation Services, and IT. It would develop geospatial data standards, consolidate GIS data, coordinate its distribution and access, and encourage consistency of application across all campus GIS user groups. Further, it would coordinate AggieMap as a public-facing resource for the extended University community, and it would align secured-use geographic information system integrations as a resource internal to TAMU operations.

EDMS – The Engineering Document Management System would serve as a secure, centralized and scalable repository of engineering documentation for campus facilities and infrastructure – and would have two aspects.

- One aspect would aggregate and structure by metadata, facilities-related documents currently residing in disparate systems and locations, making them centrally searchable and accessible on desktop, web and mobile platforms, by operational user groups such as Utilities and Energy Services, Campus Planning Design & Construction, and TAMU Facilities Management. Integrated functionality would accommodate nuances of engineering file types such as CAD and Building Information Models, support project management, track and version sustaining files, and facilitate engineering document coordination with external entities.
- The other aspect of the document management system would be specific to 3D reality capture documentation of campus facilities and infrastructure, in the form of point clouds, imagery, and models. It would centrally store, process, and deploy these, making them available for CAD integrations and analysis workflows.

ADDENDUM B – Org Chart and Position Title List

FACILITIES ANALYTICS & MAPPING



Position titles include: Director, Assistant Director, GIS Manager, GIS Analyst (Option), GIS Developer (Option), Space Data Manager, Space Data Analyst, Systems Analyst, BIM Coordinator, Facilities Document Manager (Future), Facilities Document Librarian, Facilities Document Coordinator (Option), and Student Technicians.

ADDENDUM C – Stakeholders

Internal to the Office of the Vice President for Facilities, Health, Safety and Security:

Building Access / Key Control
Campus Planning Design and Construction (CPDC)
Environmental Health and Safety (EHS)
Facility Management (FACM)
Utilities and Energy Services (UES)

External to the Office of the Vice President for Facilities, Health, Safety and Security:

TAMU Information Technology (TAMU-IT) – ServiceNow data feed
TAMU System Information Technology (TAMUS-IT) – FAMIS Services feed
Texas A&M Geoinnovation Service Center – GIS and AggieMap collaborations
Transportation Services GIS Team – GIS and AggieMap collaborations
Office of the Registrar – Howdy Portal data feed
University Police Dept (UPD) – Dispatch data feed consideration
SSC Services for Education (TAMU-SSC) – AggieWorks building/room data feeds
City of Bryan GIS Dept
City of College Station GIS Dept
Brazos County 911 - Addressing

*List may not be comprehensive

ADDENDUM D – Logistical Issues, incl. Supplemental Summaries

- Stand Up New FAM Office, incl. Location Prep and Support Infrastructure – (Phase I) To support MGT Report-recommended move planning and management efforts happening concurrently with Working Group efforts, the FAM department was necessarily created in February 2022 through a realignment of five existing staff from three TAMU departments. A location in the Pavilion was prepared, while basic and special mission-critical IT needs were accommodated. Orphaned duties of staff were considered and addressed.
- Coordination of GIS Infrastructure, Data and Standards – (Phase I) For this coordination, the existing campus GIS user group meetings will be leveraged. Membership will be encouraged to identify operational inconsistencies and inefficiencies, be given strategic direction to develop process improvements or pro-active changes, with the GIS manager making the recommendations to the Director for final approval as needed. A memo will be drafted and appropriately distributed to put this process in place.
- Transition to New, Integrated System-of-Record for Space Inventory – (Phase I) For continuity of mandated State reporting, rely on existing System-of-Record and methodologies for 2022, while testing these processes in the new system. After 2022 reports are certified (Nov), begin transitioning to the new, integrated (geometric-tabular) System-of-Record for space inventory, accounting for stakeholders’ needs regarding data feeds.
- Reconciliation of Floor Plans with Tabular Space Inventory Data - (Begin in Phase I; Continue through Phase II) A primary issue facing the IWMS implementation is the reconciliation of tabular space data with floor plan space data as the two sets are integrated. A process for this has been developed; it is a tedious, manual effort on the front-end and becomes a lighter sustaining effort thereafter.
- Scan Validation of Floor Plans / Building Models – (Strategic Plan in Phase I; Execution in Phase II) With neither data set validated, there is a dilemma as to which provides objective truth. The industry agreed upon solution is to 3D scan our facilities and use the scan data to develop gold-plated floor plans and building models. A cost-benefit analysis will need to be conducted to determine the most efficient way to capture this data.
- Scaling the EDMS to an Enterprise Level – (Strategic Plan in Phase I; Execution in Phase II) For the EDMS, the critical consideration is the means of locating and accessing all the disparate facilities-related documentation into FAM custody, from sources internal to the University, from System entities and Agencies, and from external sources such as vendors and A/E/C firms. Secondarily is the consideration for consistent and comprehensive metadata tagging of these documents and identification of the resources needed. To this end, a prioritized phased approach is suggested, building metadata standards that accommodate all anticipated documents, integrating the low-hanging fruit, and filling in the gaps as resources allow.
- Develop and Deploy New Space Inventory Survey and Reporting Process – (Phase II)
- Investigate Cost Rate Impacts for AUX and other System Parts – (Phase II)
- Determine Access, Controls and Permissions in Archibus – (Phase II)
- Establish Data Feeds from New System-of-Record – (Phase II)
- Academic Support Opportunities (and Strategic Partnerships) – (Phase III)
- Complete Initial 3D Scan Validation and Transition to Sustaining Validation Model – (Phase III)