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BIM EXECUTION PLAN (BEP)
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**Office of University Architects
for Facilities Planning**
UNIVERSITY OF GEORGIA

1.0 – BIM EXECUTION PLAN (BEP) AGREEMENT

By signature below, this BIM Execution Plan, dated _____ is herewith approved and will be incorporated as an amendment to the Design Professional Agreement, as a change order to the Contractor Agreement, and as an amendment to other separate consulting and commissioning provider agreements as they may apply to the list of parties co-signing this document.

The BEP shall be updated and amended at each major project phase deliverable, as new key parties or entities are brought on board the project and incorporated into the BIM Execution Plan.

Owner's Representatives:

UGA OUA

_____ _____
Name   Date

UGA FMD

_____ _____
Name   Date

Design Team:

Design Professional

_____ _____
Name   Date

Structural Engineer

_____ _____
Name   Date

Mechanical/Electrical/Plumbing/FP Engineer

_____ _____
Name   Date

Civil Engineer

_____ _____
Name   Date

Other

_____ _____
Name   Date

Construction Team:

General Contractor

_____ _____
Name   Date

Mechanical Contractor

_____ _____
Name   Date

Electrical Contractor

_____ _____
Name   Date

Plumbing Contractor

_____ _____
Name   Date

Structural Contractor

_____ _____
Name   Date

Other

_____ _____
Name   Date

Other Consultants:

Commissioning Provider:

_____ _____
Name   Date

2.0 – OVERVIEW

The intent of this BIM Execution plan is to provide a framework that will let the Owner, Design Professional, Engineers, and Contractor deploy building information modeling (BIM) technology and best practices on this project. This plan delineates roles and responsibilities of each party at each phase, the scope and level of detail of information to be developed, data to be managed and shared, processes defined, and software to be utilized.

3.0 – PROJECT INITIATION

This section defines the Core Collaboration Team, the project objectives, project phases, and overall communication plan throughout the project's phases.

3.1 – PROJECT INFORMATION

Project Name:	Project Name
Project Number:	Project Number
Project Address:	Project Address
Project Description:	Project Description

3.2 – PROJECT GOALS AND OBJECTIVES

Project Goal(s)	Achieved if	Project Timeframe
Provide UGA OUA with a useful BIM model that can assist in future renovations, additions and space management.	Model is accurate and contains all major components and systems in Revit format, updated to reflect As-Built	Completion of Project
Provide UGA FMD with useful COBie data for the facilities management of the building.	All required data is determined early in the project and accurately setup, managed, accumulated and exported into complete COBie worksheets that can be imported into UGA's FM program.	Completion of Project

3.3 – TEAM INFORMATION

Contact	Role/Title	Company	E-mail	Phone
Name	title	company	e-mail	p. 555-555-555 c. 555-555-5555
Name	title	company	e-mail	p. 555-555-555 c. 555-555-5555
Name	title	company	e-mail	p. 555-555-555 c. 555-555-5555
Name	title	company	e-mail	p. 555-555-555 c. 555-555-5555
Name	title	company	e-mail	p. 555-555-555 c. 555-555-5555
Name	title	company	e-mail	p. 555-555-555 c. 555-555-5555
Name	title	company	e-mail	p. 555-555-555 c. 555-555-5555
Name	title	company	e-mail	p. 555-555-555 c. 555-555-5555
Name	title	company	e-mail	p. 555-555-555 c. 555-555-5555
Name	title	company	e-mail	p. 555-555-555 c. 555-555-5555
Name	title	company	e-mail	p. 555-555-555 c. 555-555-5555

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3.4 – PROJECT PHASES / MILESTONES

Project Phase / Milestone	Estimated Start Date	Estimated Completion Date	Project Stakeholders Involved
Programming / Pre-Design Phase	MM/DD/YEAR	MM/DD/YEAR	Owner, Design Professional, Consulting Engineers
Schematic Design Phase	MM/DD/YEAR	MM/DD/YEAR	Owner, Design Professional, Consulting Engineers, Contractor
Preliminary Design Phase	MM/DD/YEAR	MM/DD/YEAR	Owner, Design Professional, Consulting Engineers, Contractor, Commissioning Provider
Construction Documents Phase (Refer to schedule for early bid packages)	MM/DD/YEAR	MM/DD/YEAR	Owner, Design Professional, Consulting Engineers, Contractor, Commissioning Provider
Agency Review & Bidding Phase (Contractor)	MM/DD/YEAR	MM/DD/YEAR	Owner, Design Professional, Consulting Engineers, Contractor, Commissioning Provider
Close-Out (Design Team)	MM/DD/YEAR	MM/DD/YEAR	Owner, Design Professional, Consulting Engineers
Close-Out (Contractor)	MM/DD/YEAR	MM/DD/YEAR	Owner, Contractor, Commissioning Provider

4.0 – MODEL PLANNING

Identify BIM Models that will be created (ie. Design Professional, Structural, MEP, etc.), who the model managers will be from each party responsible, naming convention of BIM files that will be used for final model deliverables, and level of detail utilized at each phase.

4.1 – MODEL MANAGERS

Each party—such as the Owner, Design Professional, Contractor, or Subconsultants—that is responsible for contributing modeling content should assign a model manager to the project. The model manager from each party has a number of responsibilities. They include, but are not limited to:
1. Transferring modeling content from one party to another
2. Validating the level of detail and controls as defined for each project phase
3. Validating modeling content during each phase
4. Combining or linking multiple models
5. Participating in design review and model coordination sessions
6. Communicating issues back to the internal and cross-company teams
7. Keeping file naming accurate
8. Managing version control
9. Properly storing the models in the collaborative project management system

Stakeholder	Model Manager	E-mail	Phone
company name	name	name@name.com	p. 555-555-5555
company name	name	name@name.com	p. 555-555-5555
company name	name	name@name.com	p. 555-555-5555
company name	name	name@name.com	p. 555-555-5555
company name	name	name@name.com	p. 555-555-5555
company name	name	name@name.com	p. 555-555-5555
company name	name	name@name.com	p. 555-555-5555

4.2 – PLANNED MODELS

In the table below, outline the models that will be created for the project. List the model name, model content, project phase when the model will be delivered, the model's authoring company, and the model-authoring tool that will be used. For models that will not be used or created in your project, just leave the row blank, and add rows for model types you anticipate needing that are not already listed.

Model Name	Model Content	Project Phase	Authoring Company	Authoring Tool
Design Professional Model	Design Professional building and component objects, code information, Room area information	SD,DD, CD, Construction, Close-out	Design Professional company name	Autodesk Revit Design Professional
Lab Furnishings Model	Design Professional Casework and Fixed Furnishings	DD, CD, Construction, Closeout	Consultant company name	Autodesk Revit Design Professional
Survey / Civil Model	Topography, site utilities to within 5 feet of perimeter, hard and soft surfaces, other site objects	SD, DD, CD Construction, Closeout	Survey Engineer company name	Autodesk Civil 3D
Structural Model	Structural column and beam members, bearing and shear walls, foundations, analytical structural model, lintels	DD, CD, Construction, Close-out	Structural Engineer company name	Autodesk Revit Structure
Mechanical Model	Mechanical systems, equipment, load information, utilities within 5 feet of building perimeter, Space/ Zone objects	DD, CD, Construction, Closeout	Mechanical Engineer company name	Autodesk Revit MEP
Electrical Model	Electrical systems, equipment, load information, utilities within 5 feet of building perimeter	DD, CD, Construction, Closeout	Electrical Engineer company name	Autodesk Revit MEP

Model Name	Model Content	Project Phase	Authoring Company	Authoring Tool
Plumbing Model	Plumbing systems, equipment, load information, utilities within 5 feet of building perimeter	DD, CD, Construction, Closeout	Plumbing Engineer company name	Autodesk Revit MEP
Energy Model	Energy data, run iterations, life cycle costing, peak loads	DD, CD	Company name	??
Construction Model	Scheduling information, sequencing information Fabrication models	Construction, Closeout	Construction company name	Autodesk Revit, NavisWorks
Estimate Model	Costing data, quantity takeoffs to be derived from Design Professional's design intent model utilized and further developed by Contractor	SD, DD, CD	Construction company name	Quantity Takeoff and Onscreen Take off.
Coordination Model	Design Intent Models, Construction Models, and Fabrication information	Construction	Design intent models by Design Taam. Construction and Fabrication models by Construction Team.	Autodesk NavisWorks / (Revit TBD)

4.3 – BIM FILE NAMES

File Names for Models Should Be Formatted as:	
DISCIPLINE-Project Number-Building Number.rvt (example: ARCH-20090001-BL001.rvt).	
Design Professional	ARCH-****-*****.rvt (final model name)
Lab Furnishings	LABF-****-*****.rvt
Survey/Civil Model	CIVL-****-*****.dwg (2010)
Structural Model	STRC-****-*****.rvt
Mechanical Model	MEP-****-*****.rvt (note all MEP models will be contained in a single
Electrical Model	MEP-****-*****.rvt (note all MEP models will be contained in a single
Plumbing Model	MEP-****-*****.rvt (note all MEP models will be contained in a single
Energy Model	ENRG-****-*****.pd2
Construction Model	CNST-****-*****.nwf / .dwg
Estimate Model	COST-****-*****.rvt
Coordination Model	COORD-***.*****.nwf/.nwd

4.4 – PRECISION AND DIMENSIONING

Models should include all appropriate dimensioning as needed for design intent, analysis, and construction. With the exception of the exclusions listed below, the model will be considered accurate and complete. In the table below, enter which items' placement will not be considered entirely accurate and should not be relied on for placement or assembly.

Items that Will Not Be Considered Accurate for Dimensioning or Placement
Design Professional –
Structural –
Civil –
MEP –
Lab Furnishings –

4.5 – MODEL ATTRIBUTE DATA / COBIE DATA PLANNING

Specify model component COBie data. The Design and Construction Team will be required to add information to the BIMs that will add value to UGA's facility management systems. In support of COBie, the Project Team is required to utilize and develop COBie schedules within the BIM model that captures data information from the model for export to COBie worksheets.

The Design and Construction Team is expected to understand data requirement for all phases of the work, and should show how data capability requirements influence the planning and collaboration for this project. Diagramming and listing expected data requirements and processes, solving workflow dynamics for the collaborative team will address the intent of the BIM Project.

Develop detailed component lists along with required data fields for each component to be captured and exported to COBie. Coordinate which parties on the Design and Construction Teams are responsible for delivering data at each phase of the project and how data will be consolidated and delivered so that it meets the requirements for transfer into UGA's facilities management program.

4.6 – MODELING LEVEL OF DETAIL

Specify the level of detail in your models below. The level of detail can be defined by exclusions and/or by object size. The level of detail described here should reflect descriptions listed within the AIA E202.

Size: Any object smaller than 1" will not be included in the model. Unless otherwise required to meet requirements of describing design intent and construction documentation requirements.

4.7 – MODELING PLAN

AIA form E202 will be utilized as a basis for developing a detailed modeling plan. The following outlines model plan objectives at each phase. *Edit and further develop the following outline as required to communicate and coordinate model development to meet the requirements and objectives of the UGA BIM Requirements and Guidelines.*

4.7.1 – PRE-DESIGN / CONCEPTUALIZATION

Objectives & Responsibilities: Provide initial design based on conceptual parameters established by the Owner; ensure that code and zoning requirements meet project objectives. Provide Program of Requirements and all space considerations for reference in the model. If a BIM model is established at this phase then establish a 3D reference point for future model coordination.

Model Roles: Describe what kind of model will be developed and by what program. The role of this model will be to depict the visual concept and general layout of the project along with space requirements, along with other requirements as described in the UGA BIM Standards.

4.7.2 – SCHEMATIC DESIGN PHASE

Objectives: Provide spatial design based on input from the Conceptualization / Program of Requirement phase; provide initial design for building system and attributes including Design Professional, Structural, and MEP; identify initial coordination issues between building systems and 3D reference point for model coordination; if Contractor has been selected, then Contractor to receive input from suppliers and fabricators regarding system cost, placement, fabrication and scheduling.

Model Role & Responsibilities: The Design Professional model will show the general design and layout of the building structure and act as the baseline for all other subsystem designs, such as MEP and Structural models. The subsystem designs are only required to be narratives at this phase. Additional information may be provided by subsystem consultants during this phase as they see fit. The Design Professional model will be used to inform the Energy Models at this phase. Address how model development will meet the requirements of the UGA BIM Requirements and Guidelines.

COBie Data: Establish schedules and project parameters in the BIM model that will become the basis for exporting model data to COBie worksheets. Submit initial COBie data worksheets as describing in the UGA BIM Requirements and Guidelines.

4.7.3 – PRELIMINARY DESIGN (DESIGN DEVELOPMENT)

Objectives: Provide developed design of building and building systems; resolve coordination issues between building systems; if a Contractor is on board at this phase of the project then a combined (Design Professional/Structural/MEP) Design Intent Model(s) will be provided to the Contractor for use in his development of a Construction Model capable of analyzing schedule, cost, and constructability.

Model Roles & Responsibilities: The Design Professional model will continue to act as the baseline for all other subsystem designs. The subsystem designs will be modified accordingly to represent the enhanced design. Once the baseline conceptual structure has been created, the Design Professional's model manager will send the model to the Subconsultants so they can develop their designs. The Consulting Engineers' designated model managers will audit and deliver the completed models to the Design Professional's model manager. The Design Professional's model manager will review the models to ensure compliance with the phase requirements. Once the models meet the requirements, the Design Professional's model manager will link or combine cross-disciplinary models. The Design Professional's model manager should coordinate with the Consulting Engineers' model managers to eliminate duplicate or redundant objects. The Consulting Engineers' model managers will use the Design Professional model to revise and complete their designs. Once the models are complete, the Consulting Engineers' model managers will deliver their models to the Design Professional's model manager. The Design Professional's model manager will review the models to ensure compliance with the phase requirements. The Design Professional's model manager will provide the Contractor's model manager with the Design Professional model and the Consulting Engineers' models. Elements or Components that will need to be duplicated between models will be documented and coordinated and a system developed for controlling the display of duplicate elements will be established through the use of work sets or other mutually agreed upon process.

COBie Data: Submit updated and additional COBie data worksheets as describing in the UGA BIM Requirements and Guidelines.

4.7.4 – CONSTRUCTION DOCUMENTS (CONTRACT DOCUMENTS)

Objectives: Finalize design of the building and all building systems, prepare documentation for agency review, and provide Design Intent Models that are the basis for all Contract Document Drawings, including all plans, elevations, sections, schedules and details needed for use in the construction of the project. Provide the Contractor a combined (Design Professional/Structural/MEP) Design Intent Model(s) that will be utilized in his development of a Construction Model capable of analyzing schedule, cost, phasing and constructability.

Model Roles & Responsibilities: All Design Intent Models will be used to reflect the design intent of the project and be the basis for all Contract Document Drawings, these models will become the basis for creating and updating the Record Models and Record Drawings. These models will then be used as the basis for generating the Construction Model(s). The Construction Model will be used for estimating, scheduling, phasing, and constructability analysis. The Construction Model(s) will also become the basis for future development of element and component data needed for the development and gathering of COBie data for periodic export into COBie worksheets.

COBie Data: Submit updated and additional COBie data worksheets as describing in the UGA BIM Requirements and Guidelines. Establish a schedule for future periodic COBie data worksheet updates to occur during the construction phase, along with final worksheet delivery at closeout.

4.7.5 – BIDDING PHASE

Objective: Revise Design Intent models based on agency feedback on all models. Incorporate feedback into Addenda. Design Team to update all Design Intent Models with Addenda as issued.

Model Roles & Responsibilities: The Design Intent Models will be adjusted to reflect agency feedback. The Construction Model will be enhanced and further used for estimating, scheduling, construction sequencing, trade coordination, and constructability analysis. The Design Professional's model manager will communicate agency comments back to the Design Team. The Consulting Engineers' model managers will revise their design models accordingly and submit them back to the Design Professional. The Design Professional's model manager will provide the Contractor's model manager with the Design Professional model and the Consulting Engineers' models.

COBie Data: No COBie data requirements at this phase.

4.7.6 – CONSTRUCTION PHASE

Objective: Update Design Professional and Consulting Engineers' models based on submittals, RFIs, or owner-directed changes; maintain the Construction Model based on construction activities. The Construction Team will submit RFIs and submittals through the collaborative project management system.

Model Roles & Responsibilities: The Design Professional and Consulting Engineers' Design Intent Models will be revised throughout construction, based on owner directives and As-Built comments. The models will always reflect the revised contract documents with the exception of those items listed as excluded in this BEP. The Construction Model will be used for scheduling analysis, construction sequencing, delegated design component development and trade coordination. Establish and document any departures from concurrent modeling between Design Intent and Construction Models, for example, it may be desirable to maintain the original Design Intent Model as a record of the originally designed mechanical system as designed by the Mechanical Engineers as a reference point for evaluating and comparing any re-designed mechanical systems made by the Mechanical Subcontractor as a result of delegated design responsibilities. The Design Professional's model manager will work with their Consulting Engineers to answer the RFIs and submittals and adjust the models accordingly. The Contractor's model manager will update the Construction Model and will work with the Design Professional to develop the Design Professional and Consulting Engineers' models.

COBie Data: Submit updated and additional COBie data worksheets as describing in the UGA BIM Requirements and Guidelines. Establish a schedule for periodic COBie data worksheet updates to occur during the construction phase, along with final worksheet delivery at closeout. Establish a plan for consolidating COBie data that will be exported and generated by multiple models potentially, with multiple party responsibilities that will be acceptable and useable by the Owner's end-user parties.

4.7.7 – CLOSE-OUT (DESIGN TEAM)

Objective: Use the Design Professional and Consulting Engineers' Design Intent Models for facility management, with the possibility of use in ongoing operations for future additions, renovations, etc.

Model Roles & Responsibilities: The Design Professional and Consulting Engineers' models will be used to represent the actual assembly of the building from construction with the exception of those items listed as excluded in this BEP. If Construction Models are more representative than Design Intent models of actual As-Built components such as mechanical System, then formulate a plan for combining differing models. The Design Professional will deliver the Record Design Intent Model(s) and Record Drawings at the end of the project to the Owner.

COBie Data: The Design Team will coordinate with the Construction Team to deliver a coordinated and consolidated COBie worksheet deliverable at closeout.

4.7.8 – CLOSE-OUT (CONSTRUCTION TEAM)

Objective: Use the Contractors Construction Model(s) as the basis for all final component data derived from shop drawing submittal process needed for UGA Physical Plant operations and facilities management.

Model Roles & Responsibilities: The Contractor's models will be used to represent the actual assembly of the building from construction, and will be utilized in generating the final As-Built Model and Documents. It will also be used as the basis of COBie data associated with actual product selection as the result of the shop drawing and submittal processes. The Contractor will deliver the As-Built Construction Model(s) and As-Built Documents at the end of the project to the Owner.

COBie Data: The Design Team will coordinate with the Construction Team to deliver a coordinated and consolidated COBie worksheet deliverable at closeout.