



**00 00 02**  
**TERMS**

**Athens-Clarke County (ACC)**

**Bid (or Base Bid)**

**BIM (Building Information Modeling)**

**Board of Regents of the University System of Georgia (Board of Regents or BOR)**

**“Campus”**

The term refers to the University of Georgia’s main campus and Health Sciences Campus in Athens, Georgia as well as all other Board of Regents UGA Property.

**Center for Teaching and Learning (CTL)**

**Client**

For OUA managed projects, the OUA is the Design Professional or Contractor’s Client. For FMD managed projects, the FMD is the Design Professional or Contractor’s Client. The End-User is not the Design Professional or the Contractor’s Client.

**Construction Manager (CM)**

**Contractor**

The term “Contractor” means: General Contractor (GC) or Construction Manager (CM) or Design Builder (DB).

**Construction Contingency**

This term shall also mean Contractor Contingency.

**Design Bid Build (DBB)**

**Design - Build and/or Design – Builder (DB)**

**Design & Construction Standards (Standards)**

**Design Professional (DP)**

The term “Design Professional” includes: Architects, Engineers, Surveyors, Designers, General Consultants, and other Consultants.

**End-User (Tenant)**



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The End-User is a person or entity that will occupy the Project at completion of the Work. The End-User is transient in nature and it is not unusual for the End-Users to change throughout the project. The End-User has no contractual relationship with the Contractor or Design Professional. Examples of End-Users include: Academic Units, UGA Departments, and the Dean or other Personnel assigned by the Dean.

**Enterprise Information Technology Services (EITS)**

**Environmental Safety Division (ESD)**

**Facilities Management Division (FMD)**

**General Requirements**

References to General Requirements “#.#.#.#.” indicates an article or section in the Board of Regents of the University System of Georgia contract.

**Georgia State Finance and Investment Commission (GSFIC)**

**Integrated Project Delivery (IPD)**

**Leadership in Energy and Environmental Design (LEED)**

**Office of the University Architects for Facilities Planning (OUA)**

**Overhead Costs and Expenses (General Conditions)**

**Owner’s Representative**

For OUA managed projects, the Owner’s Representative, UGA, has delegated OUA as the Using Agency’s Representative. For FMD managed projects, the Owner’s Representative, UGA, has delegated FMD as the Using Agency’s Representative.

**Project Manager (Owner’s Representative)**

Project Manager means an OUA or an FMD Project Manager; it is not referring to the Contractor’s Project Manager.

**State Construction Manual (SCM)**

**UGA Fire Safety (Office of Fire Safety)**

**University of Georgia (UGA)**



**Using Agency's Representative**

For OUA managed projects, the Using Agency, UGA, has delegated OUA as the Using Agency's Representative. For FMD managed projects, the Using Agency, UGA, has delegated FMD as the Using Agency's Representative.



00 00 03

**MODIFICATIONS TO GENERAL REQUIREMENTS OF BOR CONTRACTS**

**1. GENERAL**

- A. Design Professional Services Requirements: The BOR Design Professional contracts section title 'Services Requirements' shall have the same meaning section title as 'General Requirement'.
- B. Copies of Notices: For General Requirements 1.1.5.2, in addition to the Owner and the Owner's Representative, any notice, request, or demand filed by the Contractor shall also be furnished to: Construction Buyer, Senior Procurement Specialist, University of Georgia Procurement Office, 0301A Business Services, 424 E. Broad Street, Athens, GA 30602.
- C. Copies of Contract Documents to Contractor: Replace General Requirements 1.1.7.2 with: "Without charge to the Contractor, the Design Professional shall furnish to the Contractor one set of completed Contract Documents in hardcopy, one set of electronic background and floor and reflected ceiling plan drawings, if requested, one copy in read-only electronic format. Contractor shall pay for any additional requested sets and shall include cost in the Contractor Overhead Cost."
- D. Safety & Security: The costs for all references in the University of Georgia Special Conditions for safety & security shall be included in the Contractor Overhead Cost. This includes, but is not limited to, fencing, barricades, traffic control and temporary signage.
- E. State of Georgia Licensed Sub-Contractors:
- i. For any mechanical work on this project, at least one person installing mechanical work must have a valid and current certification of registration issued by the Georgia State Construction Industry Licensing Board to engage in prescribed mechanical activities.
  - ii. For any electrical work on this project, at least one person installing electrical work must have a valid and current certification of registration issued by the Georgia State Construction Industry Licensing Board to engage in prescribed electrical activities.
  - iii. For any plumbing work on this project, at least one person installing plumbing work must have a valid and current certification of registration issued by the Georgia State Construction Industry Licensing Board to engage in prescribed plumbing activities.
  - iv. Utility Contractors must be State of Georgia Licensed and comply with Georgia Code 43-14, HB 1300 and for projects in Athens Clarke County shall be on the Athens Clarke County approved list of utility Contractors.
  - v. Certified Welders: For any welding work on this project, all welders installing welding work must have a valid and current year certification of registration issued by the Georgia State Construction Industry Licensing Board to engage in prescribed welding activities. See 01 35 13.02 Special Project Procedures – Roofing & Hot Work
- F. Fire Marshal Inspections: For General Requirements replace 3.6.4.3.1 in its entirety with the following: "The State Fire Marshal and the University of Georgia Office of Fire Safety may make inspections at any time. It shall be the responsibility of the Contractor to request an inspection at 80% percent completion and at 100% completion and to give notice when all items on the 100% inspection report have been completed. Written

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requests for inspections shall be made to the Owner's Representative and shall not be made directly to the State Fire Marshal and /or the University of Georgia Office of Fire Safety."

- G. Office for Contract Compliance Specialist (CCS): Delete General Requirements 1.7.5.
- H. 24 Hour Emergency Contact: Prior to commencing work on site the Contractor shall forward to the Owner's Representative the 24 hour contact information for the project site. If the information changes at any time during the contract, the Contractor shall immediately provide updated information. This contact information will be shared with the UGA Police Department and other campus units.
- I. Cleaning: For General Requirements 3.1.13.1, add following "Periodically during the course of the Work, and at least daily, all debris, trash or unsuitable materials resulting from construction removed from Owner's property shall be disposed of legally in accordance with all applicable Federal, State and Local laws and codes." Contractor shall include associated cleaning costs in the Contractor Overhead Cost. Debris shall not be placed in University of Georgia trash containers but instead shall be placed in dumpsters or other facilities provided by the Contractor for this purpose.
- J. Read Only Electronic Version: Any references to 'read-only electronic version' in the General Requirements and / or in the University of Georgia Special Conditions shall mean the in the latest version of the software format by Adobe and shall be a '.pdf' file format.
- K. BIM Model & Instruments of Service: The BIM model constitutes an Instrument of Service as defined by the General Requirements for the Design Professional Contract (CM) 2.1.2.1 (2.1.4.1 in Design Build (DB) Contract; 2.1.2.1 in Design Bid-Build (DBB) Contract). Therefore all items pertaining to Instruments of Service as set forth in section 2.1.2 in CM Contract (2.1.4 in DB Contract; 2.1.2 in DBB Contract) shall apply to the model.
- L. Electronic Submittals: For General Requirements 2.2.5.2, 2.2.5.2 (CM), and 2.2.3.2 (GC for DBB) electronic read-only submittals are acceptable. The Contractor and the Design Professional shall stamp and sign the submittals, then scan and distribute the documents including electronic copies to the Owner's Representative if requested. At the end of the project the Contractor shall furnish electronic and hard copies per UGA Design & Construction Standards 01 77 00 Project Closeout.
- M. Hard Copy Submittals: For General Requirements 2.2.5.2, 2.2.5.2 (CM), and 2.2.3.2 (GC for DBB) if electronic submittals are not used for this project, then the Contractor shall submit four (4) hard copies of all required submittals to the Design Professional. The approved hard copies shall be distributed with 1 hard copy to the Design Professional; 1 copy to the Owner's Representative; and 2 copies to Contractor. At the end of the project the Contractor shall furnish electronic and hard copies per UGA Design & Construction Standards 01 77 00 Project Closeout.
- N. Operations and Maintenance Data and Instructions and Training: In addition to the General Requirements 6.4.1.2.4, the Contractor shall provide the Owner's Representative with a read-only electronic version and hardcopies of all written materials related to operations and maintenance per UGA Design & Construction Special Conditions 01 77 00 Project Closeout. Training shall be completed prior to Material Completion of the Project.
- O. Marked-up Construction Documents: For General Requirements 2.2.2.3 (CM), 2.3.2.3 (DB), and 6.4.1.2.3, in addition to the Design Professional, the Contractor shall also provide the Owner's Representative with sets of Marked-up (As-Built) Construction Documents as well as read-only electronic versions of the Marked-up Construction Documents per UGA Design & Construction Special Conditions 01 77 00 Project Closeout.



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- P. Record Drawings and Final Documents (Record Documents): In General Requirements 2.2.14.1, 2.2.14.1 (DP for CM), 2.2.11 (DP for DBB), 2.1.20.1 (DB), replace in its entirety with “The Design Professional shall, upon final completion of the Project, revise the original drawings and specifications based upon documents incorporated into Change Orders, additional sketches, answered RFI’s and marked up documents provided by the Design-Builder to show the project ‘as-built’”. The Design Professional shall furnish and deliver to the Owner after the entire work is completed, and not later than sixty (60) calendar days after execution of its Certificate of Final Completion, the Record Drawings. (Record Drawings and Final Documents shall reflect all changes caused by addenda, field changes, change orders or observed changes by the Design Professional, the Design-Builder or the subcontractor(s). The Design Professional shall furnish to the Owner, at no additional costs, hard copies and fully conformed and revised electronic copies per UGA Design & Construction Standards 01 77 00 Project Closeout. Based upon additional information provided by the Design-Builder, the Record Drawings and Final Documents (collectively the “Record Documents”) shall show the Design Professional’s understanding of the locations of all utility lines and shall be altered to conform to all changes made in the building during its construction.”
- Q. Required Minimum Combined Primary Liability and Excess Umbrella Liability and Limits: For General Requirements 1.5.3.3.5 the umbrella coverage maybe increased in Owner’s sole discretion for Projects that involve hot work. Refer to section 01 35 13. 02 – Special Project Procedures – Roofing & Hot Work.



00 00 04

ENVIRONMENTAL

1. GENERAL

A. Clean Water Act, Georgia Water Quality Control Act, and Georgia Soil Erosion and Sedimentation Act:

- i. This project is located within a watershed that may drain into waters of the United States or the State of Georgia and storm water inlets and storm drainage associated with the project may drain directly into waters of the United States or the State of Georgia or lands within the State of Georgia. All such waters and lands shall be protected from the discharge of any pollutant. The Contractor shall insure that all construction activities conducted on the project site comply with all applicable provisions of the Clean Water Act, the Georgia Water Quality Control Act, the Georgia Soil Erosion and Sedimentation Act, and any rules, regulations, local ordinances and permits promulgated or issued thereunder. The scope of this project may require coverage under the NPDES Storm Water Discharges Associated with Construction Activities permit and may require a Land Disturbance Activity permit issued by a local issuing authority.
- ii. The Contractor shall develop, implement, and maintain a site specific spill response plan for the project that addresses loading and unloading, storage, and usage of containers and materials with the potential for spillage, leakage, or other discharges and a site specific erosion, sedimentation, and pollution control plan. The Contractor shall maintain environmental spill kits on site at all times and shall insure that site personnel are properly and adequately trained on the use of the spill kits.
- iii. The Contractor shall not conduct any construction activities within a twenty-five (25) foot buffer along the banks of any waters of the State of Georgia, unless a variance for this project has been issued by the Georgia Environmental Protection Division.
- iv. The Contractor shall not conduct any construction activities within a fifty (50) foot buffer along the banks of any waters of the State of Georgia that is classified as trout waters, unless a variance for this project has been issued by the Georgia Environmental Protection Division.
- v. The Contractor shall employ Best Management Practices (BMP's) which are consistent with and no less stringent than those practices contained in the most current "Manual for Erosion and Sediment Control in Georgia" published by the State Soil and Water Commission. If BMPs are not functioning as designed, the Contractor shall immediately notify the Owner's Representative and the Design Professional verbally and in writing. If the BMPs required by the contract documents are more stringent than those required by the most current "Manual for Erosion and Sediment Control in Georgia", then the requirements of the contract shall apply.
- vi. The Contractor site superintendent must have a current Georgia Soil and Water Conservation Commission Level 1A Certification. An individual with a current Georgia Soil and Water Conservation Commission Level 1A Certification must be on site at all times that land disturbing activities are being performed.
- vii. If the project requires a Land Disturbance Activity Permit, prior to starting any land disturbing activities, the Contractor shall obtain the necessary Land



Disturbing Activity Permit from the Local Issuing Authority and shall identify itself as the 24 hour contact. The Contractor shall comply with all requirements of the Local Issuing Authority.

- viii. If the project requires coverage under the NPDES Storm Water Discharges Associated with Construction Activities Permit, the Contractor shall:
- a. Sign the NPDES permit Notice of Intent promptly upon request of the Owner or Design Professional and prior to beginning any construction activity on site. The Contractor and Owner shall be joint Primary Permittees. As the entity that has the primary day to day operational control of those activities at the construction site necessary to ensure compliance with Erosion, Sedimentation and Pollution Control Plan requirements and permit conditions, the Contractor shall be the Operator;
  - b. Insure complete implementation of the Erosion Sedimentation & Pollution Control Plan (Plan).
  - c. Within 24 hours of the installation of the initial sediment storage requirements and perimeter control BMPs, the Contractor shall notify, in writing (email is acceptable), the Owner's Representative and the Design Professional stating that the initial installation is complete and ready for inspection. The design professional who prepared the erosion, sedimentation and pollution control plan shall issue a letter of compliance or a letter listing deficiencies. The Contractor shall correct any deficiencies documented within two (2) days of receipt of that letter and shall schedule any follow-up inspections necessary to comply with the requirements of the Permit, and insure that a letter of compliance is received from the Design Professional and placed in the site records.
  - d. Insure daily inspections of vehicle entrances and exits and areas where petroleum products are used, stored, or handled are conducted and documented in a daily inspection report by Level 1A certified personnel. Daily Inspection reports must include:
    - 1) Name of inspector
    - 2) Date of inspection
    - 3) Observations
    - 4) Corrective actions taken
    - 5) Any incidents of noncompliance
    - 6) Signature of certified inspector
    - 7) Where reports do not identify incidents of noncompliance, a certification that the entrances and exits and areas where petroleum products are used, stored, or handled are in compliance with the Plan and the Permit must be included
    - 8) All daily inspection reports must be retained in the site records.
  - e. Maintain a daily rainfall log indicating the amount of rainfall at the site during each 24-hour period. The rainfall log must have an entry for each twenty-four hour period from the commencement of construction until the Notice of Termination is properly submitted.





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- f. Maintain all records required by the Permit on site. The records shall be up to date, in chronological order and readily available for review. The records shall include at a minimum:
    - 1) A field set of as-built documents indicating any revisions to the civil and erosion sedimentation and pollution control drawings. Any revision on the field set of as-built drawings must be marked on the contract documents and shall be signed and dated by the engineer of record.
    - 2) Completed Notice of Intent (NOI) form with certified mail receipt (request from Design Professional or Owner's Representative if Contractor doesn't have a copy).
    - 3) Documentation of fee payment with certified mail receipt (request from Design Professional or Owner's Representative if Contractor doesn't have a copy).
    - 4) 7-day inspection letter of compliance from the Design Professional.
    - 5) Daily, weekly, and post ½-inch rain event inspection reports generated by the Contractor and/or the testing agency retained by Owner ("Owner's Testing Agency").
    - 6) Rainfall data.
    - 7) Turbidity sampling results with certified mail receipts issued by the Owner's Testing Agency (request from Design Professional or Owner's Representative if Contractor doesn't have a copy)
    - 8) Summary reports of inspections and violation records with certified mail receipts (request from Design Professional or Owner's Representative if Contractor doesn't have a copy). Upon signing the Notice of Termination, provide to the Project Manager an electronic scanned copy of all records a. thru h. listed above.
  - g. Sign NPDES General Permit Notice of Termination promptly after the Design Professional and / or the Owner's Testing Agency issue a written statement that the project site has undergone final stabilization and that all storm water discharges associated with the construction activity that were authorized by the Permit have ceased.
- B. Duty to Notify and Correcting the Work
- i. The Contractor shall immediately document in the site records and notify the Owner's Representative with a phone call and in writing, of the receipt of any warnings, citations, notices of permit violations or deficiencies, and / or stop work orders received from the Local Issuing Authority and /or the Georgia Environmental Protection Division and / or the United States Environmental Protection Agency. The Contractor shall immediately provide copies of any written warnings or citations or other noncompliance notices received to the Owner's Representative. Within 12 hours of receiving any warnings or citations, the Contractor shall inform the Owner's Representative in writing of the corrective actions that the Contractor shall implement.
  - ii. The Contractor shall complete corrective action within 24 hours or prior to any impending rain events, whichever is sooner, of receiving any warnings, citations,



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letters, emails, or other notices citing violations or deficiencies, from the Local Issuing Authority, the Georgia Environmental Protection Division, the United States Environmental Protection Agency, Design Professional, or the Owner's Testing Agency related to the Clean Water Act, the Georgia Water Quality Control Act, the Georgia Soil Erosion and Sedimentation Act, and / or the Land Disturbance Activities Permit or the NPDES Permit.

- a. If the appropriate corrective action is beyond the expertise of the Contractor or will involve a change in design, construction, operation, or maintenance, which has a significant effect on a BMP with a hydraulic component, the Contractor must immediately notify the Owner's Representative and the Design Professional and follow their direction for implementing the corrective action.
- b. If the appropriate corrective action is within the expertise of the Contractor and does not involve a change in design, construction, operation, or maintenance, which has a significant effect on a BMP with a hydraulic component, the Contractor shall implement the corrective action, note the change or action taken on the site Plan and have the revision on the site plan signed and dated by the Design Professional on their next visit to the site as being an acceptable and appropriate change or corrective action.
- iii. The General Requirements 3.6.2 Correcting the Work is modified as follows related to a corrective action not being completed by the Contractor within 24 hours or prior to any impending rain events, whichever is sooner, of receipt of the warning, citation, or other form of documentation with deficiencies:
  - a. Any warning or citation issued by the Local Issuing Authority, the Georgia Environmental Protection Division, the United States Environmental Protection Agency, or a deficiency documented in the Owner's Testing Agency's report or the Design Professional, which may be issued as an email, shall serve as the Notice of Non-Compliant Work referenced in the General Requirements 3.6.2.1.
  - b. The General Requirements 3.6.2.6 The Owner's Right to Correct Work shall be modified so that the 'after three days written notice' shall be replaced with 'after 24 hours or prior to any impending rain events, whichever is sooner, after written notice'.
- iv. After completion of the required corrective actions, the Contractor shall contact the Owner's Representative and the entity that cited the deficiencies and request a re-inspection.
- v. Any fines, penalties, or negotiated settlements resulting from the noncompliance with the Clean Water Act, the Georgia Water Quality Control Act, the Georgia Soil Erosion and Sedimentation Act, Land Disturbance Activities Permit, NPDES Permit, or any rules, regulations, local ordinances and permits promulgated or issued thereunder on the part of the Contractor or any subcontractor shall be paid in full by the Contractor with no cost to the Owner. The Contractor may not use Contractor Contingency or charge the Cost of the Work to pay for any fines, penalties or negotiated settlements.

## C. Default and Stop Work/ Terminate for Cause



- i. The issuance of a citation or other noncompliance notice by the Design Professional, United States Environmental Protection Agency, the Georgia Environmental Protection Division, or a Local Issuing Authority related to the Clean Water Act, the Georgia Water Quality Control Act, or the Georgia Soil Erosion and Sedimentation Act, Land Disturbance Activities Permit, NPDES Permit, or any rules, regulations, local ordinances or permits promulgated or issued thereunder, is sufficient cause for the Owner to stop work for the entire project at the cost of the Contractor until the citation deficiencies are remediated to the satisfaction of the Owner. For this situation, the General Requirements 5.1.2 Owner's and Program Manager's Right to stop work is modified as follows: "The Owner and / or the Owner's Representative reserves the right, upon the issuance of a citation or other noncompliance notice by the Design Professional, United States Environmental Protection Agency, the Georgia Environmental Protection Division, or a Local Issuing Authority, to immediately stop the work of the entire project by oral direction, at the Owner's or Owner's Representative's sole discretion, in conjunction with written notice provided to the Contractor within 24 hours. The Contractor shall be solely responsible for all costs incurred by the Contractor in connection with the stop work order including any overtime or other expenses required to achieve the material completion and occupancy date. The Contractor may not use Contractor Contingency to offset any costs related to the stop work order. The Contractor will not be granted a time extension for work time lost to a stop work order due to any such citation or other noncompliance notice."
  - ii. Non-compliance with any applicable portion of the Clean Water Act, the Georgia Water Quality Control Act, the Georgia Soil Erosion and Sedimentation Act, the Land Disturbance Activities Permit, the NPDES Permit, or any rules, regulations, local ordinances or permits promulgated or issued thereunder, is sufficient cause for the Owner to terminate the Contract for cause per General Requirements 5.3.2 Owner's Right to Declare Default and / or Terminate Contract for Cause. The Contractor's failure to correct work for any warnings or citations within the 24 hours is sufficient cause for the Owner to terminate the Contract with cause per General Requirements 5.3.2 Owner's Right to Declare Default and / or Terminate Contract for Cause.
  - iii. Contingency or charge the Cost of the Work to pay for any fines, penalties or negotiated settlements.
- D. Georgia Environmental Policy Act: In accordance with Georgia state law, a Georgia Environmental Policy Act (GEPA) evaluation was completed and a determination made that the proposed project will not have any significant adverse environmental impacts. The Contractor, in undertaking this work, becomes a steward of air, land, water, plants, animals and environmental, historical and cultural resources. As such the Contractor shall perform all work in accordance with local, state and federal rules and regulations governing the protection of these resources.



**00 00 05**

**VARIANCE REQUIREMENT & FORM**

**1. GENERAL**

- A. If the Design Professional deviates from the Standards without written approval, the deviation will be considered an error and a claim may be processed against the Design Professional's professional liability insurance for reimbursement of the cost to meet the Standards. The amount of the claim may be reimbursed to the Owner through a unilateral change order.
- B. If the Contractor is responsible for design/ building certain (or all) aspects of the project, and deviates from the Standards without a written approval, the Contractor's deviation will be considered an error and a claim may be processed against the Contractor's insurance. If the Contractor makes a change or substitution during the shop drawing and submittal process that is a deviation from the Standards, it is the burden of the Contractor, not the Design Professional, to seek a variance approval. The amount of the claim may be reimbursed to the Owner through a unilateral change order.
- C. The Project Variance Request Form must be submitted by the Design Professional and / or Contractor for any deviations from The University of Georgia Design & Construction Standards (Standards) and approved in writing. Inclusion of a deviation from the Standards, whether in drawings or specifications during any phase of design reviews, including shop drawing and submittal reviews, is not considered a Design Variance approval. It is the Design Professional and / or Contractor's burden to point out deviations to the Project Manager and to specifically request written variance approval prior to incorporating in the Project. The UGA is not responsible for identifying any deviations from the Standards.



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## UNIVERSITY OF GEORGIA DESIGN AND CONSTRUCTION STANDARDS PROJECT VARIANCE REQUEST FORM

PROJECT NAME:	DATE SUBMITTED:
DESIGN PROFESSIONAL:	PROJECT NUMBER:
CONTRACTOR:	NAME OF UGA PROJECT MANAGER:
REQUESTED BY:	REQUESTOR'S OFFICE/ORGANIZATION:

SUBMISSION:

SD    DD    CD    SUBMITTAL    CHANGE REQUEST    OTHER: \_\_\_\_\_

CURRENT DESIGN REQUIREMENT (REFERENCE THE APPLICABLE DESIGN AND CONSTRUCTION STANDARD):

  
  
  
  

BRIEF DESCRIPTION OF THE REQUESTED VARIANCE (INCLUDE THE PROPOSED ADDITION/DELETION/CHANGE TO DESIGN REQUIREMENT):

  
  
  
  

JUSTIFICATION:

  
  
  
  

REQUESTOR'S REPRESENTATIVE SIGNATURE: \_\_\_\_\_

**UNIVERSITY OF GEORGIA OFFICIAL USE ONLY**

UNIVERSITY VARIANCE REQUEST ACTION:    APPROVED    DENIED

PROJECT MANAGER SIGNATURE: \_\_\_\_\_

DATE: \_\_\_\_\_



**00 00 06**

**ACCESS TO EXISTING DOCUMENTS**

**1. GENERAL**

- A. To access previous records of as-built and construction drawings for existing buildings on the UGA Campus: (<http://www.fmd.uga.edu/facilitiesinventory/>).
  - i. Link: <https://plansroom.fmd.uga.edu/>
    - a. This secure website requires a username and password to access the files. A UGA MyID username and password is required to access this secure website. A visitor username (ppdvis) and password are available for access by non-UGA personnel. To request a password for a visitor username, send an e-mail inquiry to: plansrm@uga.edu.
- B. To access Facilities Inventory drawings (simple building floor plan drawings that include room names, room numbers, and square footage):
  - i. Adobe Acrobat PDF Files
    - a. Link: <https://pdfdrawings.fmd.uga.edu/>
      - 1) This secure website requires a username and password to access the files. A UGA MyID username and password is required to access this secure website. A visitor username (ppdvis) and password are available for access by non-UGA personnel. To request a password for a visitor username, send an e-mail inquiry to: plansrm@uga.edu.
  - ii. AutoCAD Files
    - a. Link: <https://drawings.fmd.uga.edu/>
      - 1) This secure website requires a username and password to access the files. A UGA MyID username and password is required to access this secure website. A visitor username (ppdvis) and password are available for access by non-UGA personnel. To request a password for a visitor username, send an e-mail inquiry to: plansrm@uga.edu.



**00 00 07**

**DESIGN PROFESSIONAL DESIGN PROCESS REQUIREMENTS**

**1. GENERAL**

- A. Related sections:
  - i. 00 00 08 – Design Professional Documentation Requirements & Deliverables
  - ii. 01 81 00 – Facility Performance Requirements
  - iii. 01 77 00 – Project Closeout
- B. There are other Design Professional process requirements included throughout the Standards. At the beginning of most of the Division sections that are listed as ‘General Requirements’, for example “Division 23 00 00 – General Mechanical Requirements” includes additional and more specific design requirements related to mechanical.
- C. The engineer shall request preliminary testing and validation of existing conditions and/or existing system performance to include measurement of existing HVAC system water-flows and air-flows, pot-holing of underground utilities, measurement/metering of power usage as required to minimize construction delays and ensure final system performance. The testing should be performed before completion of the construction documents.
- D. Design Intent Documentation: The cover sheet of the mechanical, electrical, and plumbing drawings shall indicate design intent (narrative and metrics) descriptions of:
  - i. Applicable codes standards used.
  - ii. Narrative description of the scope of the work.
  - iii. State design assumptions.
  - iv. Design ambient and inside conditions.
  - v. State the ventilation procedure used (including design occupancy and persons/sq. ft.). Refer to ASHRAE 62 - Paragraph 6 “Procedures”.
  - vi. Total connected design load for all services/utilities.
  - vii. Detailed layer by layer building envelope data used for design.
  - viii. Overall building air balance diagram for all operating conditions.
  - ix. Individual spaces air balance with overall building diagram.
  - x. Lighting loads for individual spaces and building as a whole. Assumptions and provisions for future addition/expansion.
  - xi. Spaces and processes requiring 24/7/365 cooling, humidity control, etc.
  - xii. Building envelope assumptions (walls, roof, partitions, glass U-value and shading coefficient, etc.)
  - xiii. List maximum noise levels of all HVAC equipment on schedules.
  - xiv. All specific, critical, user defined requirements.
- E. As soon as locations are determined (as applicable to Project), the Design Professional shall coordinate with the Project Manager and the Office of Fire Safety for the proposed fire department and emergency vehicle access roads, fire hydrant locations, PIV locations, and Fire Department Connections, and the Office of Fire Safety will coordinate with the local fire department.
- F. For Schematic Design the Design Professional shall include mechanical, electrical, and plumbing design narratives / outline specifications.
- G. For Design Development (Preliminary Design) the Design Professional shall include mechanical, electrical, and plumbing design narratives / outline specifications, or the first draft of full specifications.

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- H. During Schematic Design, the Design Professional shall develop a minimum of three completely different design solutions for review. These shall be completely different design approaches, and not be minor variations between schemes.
- I. Design Professional shall notify Project Manager of any and all substitution requests and confirm acceptability prior to Design Professional authorizing change.



**00 00 08**

**DESIGN PROFESSIONAL DOCUMENTATION REQUIREMENTS & DELIVERABLES**

**1. GENERAL**

A. Related sections:

- i. 00 00 10 – BIM Requirements
- ii. 01 31 23 – Project Website
- iii. 01 31 26 – Electronic Communication Protocols
- iv. 01 33 00 – Submittal Procedures
- v. 01 41 26.06 – Food Service
- vi. 01 77 00 – Project Closeout
- vii. 01 81 00 – Facility Performance Requirements
- viii. 27 00 00 – General Communications Requirements

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B. These are minimum requirements for consistent documentation for the review, construction, and archiving for all Projects.

C. Document Minimum Requirements

- i. Project title consistent with Design Professional Contract title and current date on all sheets.
- ii. BOR/FMD/OUA Project number and bid number (if applicable) on all sheets.
- iii. Type of submittal (examples: Schematic Design, Design Documents, Construction Documents, GMP, BID, As-Builts) and current date on all sheets.
- iv. Any changes after construction release shall be shown as Revision 1, 2, 3, etc., and clouded & noted with proper revision reference on all revised sheets and noted on index.
- v. Accurate index with any revised sheets noted as revised, UGA location map showing at least one major road or intersection on cover sheet (campus maps are available for download at <http://www.architects.uga.edu/maps/current>).
- vi. Building key plan showing location of Work with graphic scale and north arrow on each drawing sheet.
- vii. Sheet size preference is Standard Arch D (24x36). Larger sheet size Arch E1 (30x42) or Arch E (36x48) is acceptable only when necessary.
- viii. Font size shall be a minimum of 12pt when printed to scale.
- ix. Microsoft Word files shall be 2007 or later.
- x. Electronic file names shall be no longer than 15 characters using only Microsoft acceptable file names and shall be delivered by CD-Rom (s), flash drive, file download, or other acceptable deliverable.
- xi. For projects that do not require BIM, AutoCAD files shall be version 2007 or later and be whole and complete with NO Xrefs to symbols or other drawings.
- xii. Hard copy drawings shall be full size black line on white bond reproductions and be bound. Specifications shall be 8.5"x11" and bound.

D. Deliverables

- i. This section does not replace, but supplements, the standard project deliverables stated in Section 2 of the Design Professional Contracts, Design-Build Contracts, Design-Bid-Build Contracts, Construction Manager Contracts, and as required for permitting by the BOR.



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- ii. All drawings and specifications shall be submitted in AutoCAD (.dwg), Revit (.rvt) (depending on if BIM is utilized), Microsoft Word (.doc), and Adobe PDF (.pdf) formats. All PDF files shall be searchable.
- iii. Drawings and specifications shall each be submitted as one PDF binder set and all drawing PDF files shall be “flattened” so individual layers can no longer be manipulated to insure data is protected.
- iv. Internal UGA Milestone Deliverables: The following chart documents minimum internal UGA deliverable drawing sets for OUA and FMD use in reviewing milestone submissions. All deliverables shall be submitted to the Project Manager, who will then distribute contents to the entities detailed in the chart below. For the 75% and/or 95% Construction Documents the percentage complete may vary per project and one of these percentages may also be the GMP set.
- v. Network Drop Spreadsheet: Refer to 27 00 00 – General Communications Requirements for template information and requirements.

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		DELIVERABLES				
		OUA Project				
		Full Size Printed Drawing Set	Half Size Printed Drawing Set	Full Electronic Drawings Specifications	Printed Project Manual/ Specifications	Other Deliverables
<b>PROJECT STAGE</b>	<b>Site Evaluation &amp; Planning Services</b>	1 - For OUA 1 - For FMD 1 - For End-User	1 - For OUA 0 - For FMD 1 - For End-User	1 - For OUA 1 - For FMD 1 - For End-User	1 - For OUA 1 - For FMD 1 - For End-User	
	<b>Schematic Design &amp; Design Development</b>	1 - For OUA 1 - For FMD 1 - For End-User	1 - For OUA 0 - For FMD 1 - For End-User	1 - For OUA 1 - For FMD 1 - For End-User	1 - For OUA 1 - For FMD 1 - For End-User	01 81 00 Facility Performance Checklist MEP Design Concepts – Narratives, Network Drop Spreadsheet, Food Service**
	<b>50% - Construction Documents</b>	1 - For OUA 1 - For FMD 1 - For End-User	1 - For OUA 0 - For FMD 1 - For End-User	1 - For OUA 1 - For FMD 1 - For End-User	1 - For OUA 1 - For FMD 1 - For End-User	Network Drop Spreadsheet
	<b>75% - Construction Documents</b>	1 - For OUA 1 - For FMD 1 - For End-User	1 - For OUA 0 - For FMD 1 - For End-User	1 - For OUA 1 - For FMD 1 - For End-User	1 - For OUA 1 - For FMD 1 - For End-User	Network Drop Spreadsheet
	<b>95% - Construction Documents</b>	1 - For OUA 1 - For FMD 1 - For End-User	1 - For OUA 0 - For FMD 1 - For End-User	1 - For OUA 1 - For FMD 1 - For End-User	1 - For OUA 1 - For FMD 1 - For End-User	Network Drop Spreadsheet
	<b>100% - Construction Documents</b>	1 - For OUA 1 - For FMD 2 - For Fire Safety*	1 - For OUA 0 - For FMD 0 - For Fire Safety*	1 - For OUA 1 - For FMD 0 - For Fire Safety	1 - For OUA 1 - For FMD 2 - For Fire Safety*	Network Drop Spreadsheet, Food Service**

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	<b>Closeout</b>	Refer to 01 77 00 - Project Closeout
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\*If project will be permitted through UGA Fire Safety, then two sets are required for UGA Fire Safety. Submit the two sets of drawings and specifications with two copies of the completed “UGA Fire Safety Form 354” to the Project Manager who will forward to UGA Fire Safety. See section 01 41 26.03 Permit Requirements – Construction Permits. If permitted through State Fire Marshal, then one set is required for UGA Fire Safety.

\*\*If the project includes food preparation that will require a health department permit, for schematic design, the Design Professional shall email a pdf of the site plan, floor plan with food service area and nearest restrooms, and any food equipment layout related information to the Project Manager. The Project Manager will send the file to ESD for review.

For 100% Construction Documents, the Design Professional shall prepare one full size set that only includes the information as required in 01 41 26.06 Food Service and forward to the Project Manager who will send it to ESD and also provide a pdf set of that corresponding set for review. Pending any comments, once ready to be submitted for permitting, the Design Professional provide 5 sets of hardcopy sets and one searchable pdf including equipment cut sheets to the Project Manager. This shall include one full bound set of specifications.



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		<b>DELIVERABLES</b>				
		<b>FMD Project</b>				
		<b>Full Size Printed Drawing Set</b>	<b>Half Size Printed Drawing Set</b>	<b>Full Electronic Drawings Specifications</b>	<b>Printed Project Manual/ Specifications</b>	<b>Other Deliverables</b>
<b>PROJECT STAGE</b>	<b>Site Evaluation &amp; Planning Services</b>	1 - For FMD 0 - For OUA	1 - For FMD 0 - For OUA	1 - For FMD 0 - For OUA	1 - For FMD 0 - For OUA	
	<b>Schematic Design &amp; Design Development</b>	1 - For FMD 0 - For OUA	1 - For FMD 0 - For OUA	1 - For FMD 0 - For OUA	1 - For FMD 0 - For OUA	01 81 00 Facility Performance Checklist MEP Design Concepts – Narratives, Network Drop Spreadsheet, Food Service**
	<b>50% - Construction Documents</b>	1 - For FMD 0 - For OUA	1 - For FMD 0 - For OUA	1 - For FMD 0 - For OUA	1 - For FMD 0 - For OUA	Network Drop Spreadsheet
	<b>75% - Construction Documents</b>	1 - For FMD 0 - For OUA	1 - For FMD 0 - For OUA	1 - For FMD 0 - For OUA	1 - For FMD 0 - For OUA	Network Drop Spreadsheet
	<b>95% - Construction Documents</b>	1 - For FMD 0 - For OUA	1 - For FMD 0 - For OUA	1 - For FMD 0 - For OUA	1 - For FMD 0 - For OUA	Network Drop Spreadsheet
	<b>100% - Construction Documents</b>	2 - For FMD 0 - For OUA 2 - For Fire Safety*	3 - For FMD 0 - For OUA	1 - For FMD 0 - For OUA	7 - For FMD 0 - For OUA 2 - For Fire Safety*	Network Drop Spreadsheet, Food Service**
	<b>Closeout</b>	Refer to 01 77 00 - Project Closeout				

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\*If project will be permitted through UGA Fire Safety, then two sets are required for UGA Fire Safety. Submit the two sets of drawings and specifications with two copies of the completed “UGA Fire Safety Form 354” to the Project Manager who will forward to UGA Fire Safety. See section 01 41 26.03 Permit Requirements – Construction Permits. If permitted through State Fire Marshal, then one set is required for UGA Fire Safety.

\*\*If the project includes food preparation that will require a health department permit, for schematic design, the Design Professional shall email a pdf of the site plan, floor plan with food service area and nearest restrooms, and any food equipment layout related information to the Project Manager. The Project Manager will send the file to ESD for review.

For 100% Construction Documents, the Design Professional shall prepare one full size set that only includes the information as required in 01 41 26.06 Food Service and forward to the Project Manager who will send it to ESD and also provide a pdf set of that corresponding set for review. Pending any comments, once ready to be submitted for permitting, the Design Professional provide 5 sets of hardcopy sets and one searchable pdf including equipment cut sheets to the Project Manager. This shall include one full bound set of specifications.

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Simplified Floor Plan: Within 10 days at the issuance of 100% or “For Construction” Documents, the Design Professional is required to prepare simplified project floor plans (if any). The simplified floor plans shall be a 2D AutoCAD drawing and shall only contain the layers and associate attributes listed in the chart below. The electronic AutoCAD (.dwg) file shall be submitted via e-mail to the Project Manager.

	<b>DESCRIPTION OF ITEMS</b>	<b>COLOR</b>
AR-COLUMN	All columns	Red
AR-COLUMN-LINE	All column centerlines	Yellow
AR-DOOR	All doors	Cyan
AR-ELEVATOR	All elevators and ADA lifts	Green
AR-FEATURE	Any permanent building feature (built in desk units that define an area, bathroom stalls, auditorium seating, overhang of roof, turn styles, exterior walkways, etc.)	Blue
AR-STAIR	All stairs, handrails, and ADA ramps	254 (Grey)
AR-WALL	All exterior and interior walls	Red
AR-WINDOW	All windows and store fronts in exterior and interior walls	Yellow
AREA	All polylines that define rooms, hallways, mechanical chase, or floor	White/Black
FI-TEXT	All relevant text for room numbers and room use	Green



**00 00 09**

**ROOM & SPACE NUMBERING**

**1. GENERAL**

- A. Related Sections:
  - i. 00 00 06 Access to Existing Documents
- B. These numbering conventions have been developed and must be followed throughout all phases of project for UGA controlled facilities for the purpose of standardizing room numbers.
- C. For new buildings, these standards must be followed as closely as possible. In cases of renovations or additions to existing buildings, the building's existing numbering system can be extended, or abandoned in order to use the following standards to renumber the entire building including the renovated and/or added space. If the existing numbering system is used, existing room numbers shall not be duplicated. For a list of existing room numbers, see section 00 00 06 Access to Existing Documents for building floor plans with room numbers. In addition, email [plansrm@uga.edu](mailto:plansrm@uga.edu) and request an Excel spreadsheet of the existing room numbers related to the Project.
- D. The intention is for each facility's floor and room numbering scheme to be structured so that the numbers flow through the building in a consistent, comprehensible, and user-friendly pattern. The scheme should be clear to the users of the facility, not causing confusion for individuals attempting to locate spaces.

**2. FLOOR NUMBERING**

- A. The first character of a room number indicates the floor level of the building. The level with a "1" as the first character should be the uppermost floor entered at grade or one half flight above grade. Levels below this can use the character "0" (zero), "B" (basement), or "G" (ground), depending upon the arrangement and number of these floors. Buildings located on steeply sloping sites may need to vary from this rule; where necessary, the floor numbered "1" may not in fact be the uppermost floor entered at grade. Where "B" and "0" (zero) are used in the same building, the "B" level will be below the "0" level. *The only cases where the floor indicator should be more than one character are buildings with more than nine floors.*
- B. Large mezzanines shall be numbered as a whole floor. Example: When a mezzanine exists between the first floor and the next whole floor, it will be numbered as the second floor.
- C. Usable attic floors and penthouse levels should be numbered as if they are whole floors. For example, a two-story penthouse atop a three floor building will be numbered as the fourth and fifth floors. Do not use prefixes such as "R" for roof level.

**3. ROOM NUMBERING**

- A. The guidelines in this section should be followed as closely as possible when assigning numbers to individual rooms.
- B. Use 3 or 4 digit numbers (plus optional alpha suffix) consistently throughout the building. Rooms shall be numbered with a three or four digit number, where the first digit may be optionally replaced with the letter "B" or "G" (see floor numbering above); the length depends upon the size of the building and once chosen shall be consistent throughout the entire building. *With an optional letter suffix, the maximum length of a room number is 5 characters.*
- C. Three digit numbers shall be used for buildings with 9 or fewer floors and 99\* or fewer





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rooms per floor. The first floor will be numbered 100's; second floor will be 200's; third floor will be 300's etc.

- D. Ground floor or basement rooms could be numbered 001, 002, etc. or G01, G02, etc. or B01, B02, etc. *Note: the following examples use spaces in the room number to clarify and illustrate the numbering scheme; these spaces should not appear in the actual room number.*

Example: Building with 9 or fewer floors and 99\* or fewer rooms per floor

G 41 ← indicates room number  
↑ indicates floor (ground floor)

3 02 ← indicates room number  
↑ indicates floor (third floor)

- E. Four digit numbers shall be used for buildings exceeding 9 floors or having more than 99\* rooms per floor. Buildings with wings or sections can also use four digit numbers if this makes the numbering scheme easier to navigate.

Example: Building with more than 9 floors and 99\* or fewer rooms per floor

B0 02 ← indicates room number  
↑ indicates floor (basement floor)

01 02 ← indicates room number  
↑ indicates floor (first floor)

11 02 ← indicates room number  
↑ indicates floor (eleventh floor)

Example: Building with 9 floors or less but more than 99\* rooms per floor

B 102 ← indicates room number  
↑ indicates floor (basement floor)

1 102 ← indicates room number  
↑ indicates floor (first floor)

Example: Building divided into wings or sections

G 1 02 ← indicates room number  
↑ ↑ indicates wing or section (numeric only)  
L indicates floor (ground floor)

1 1 02 ← indicates room number  
↑ ↑ indicates wing or section (numeric only)  
L indicates floor (first floor)

\*The actual number of rooms requiring the use of four-digit room numbering will vary,



depending upon how many numbers are skipped and also the number of suites vs. rooms requiring non-suffixed numbers.

- F. Numbers should flow from one end of the building to the other
  - i. In a building with only one dividing corridor, room numbers should flow in ascending order from one end of the building to the other. In a building with a more complex corridor system, numbers should flow in ascending order in a clockwise direction through the corridors from the main entrance, or similar location such as elevator lobby.
- G. Use odd numbers on one side of a corridor and even numbers on the other side
  - i. Room numbers shall be coordinated so that even numbers are on one side of a corridor and odd numbers are on the other side. (In more complex designs, or where the availability of numbers is limited, the odd-even format can be abandoned if consecutive numbering results in a more logical scheme.)
- H. Skip numbers to maintain succession of room numbering
  - i. In some instances, room numbers on one side of a corridor shall be skipped in order to maintain succession with the room numbers on the opposite side of the corridor. This may occur, for example, when a suite of rooms or large space is accessed through a single door and there are no other doors on that same side until further down the corridor. This will allow for future renovations that may convert suites or large spaces into separate or small rooms with a corridor door.
- I. Skip numbers to allow for future renovations
  - i. When a corridor contains large rooms such as classrooms, meeting rooms, etc. on both sides of the corridor, room numbers shall be skipped to allow for future renovation of a large space into smaller spaces. Sufficient numbers shall be reserved to allow for the large spaces to be divided into standard size office spaces.
- J. Use similar numbering on each floor
  - i. Numbering systems on all floors should be similar as much as possible, even when the floor plans are significantly different. To the greatest extent possible, and without creating other inconsistencies, rooms with the same digits in the last positions should be located in the same position in the building. Thus, B01, G01, 001, 101, 201, etc., occur in a vertical stack.
- K. Use alphabetic suffixes for rooms entered from other rooms (rather than a hallway)
  - i. Rooms entered from a main corridor or lobby are numbered with no letter suffix. When rooms open off of another room and not from a corridor (such as in a suite of offices), use the number of the first room with a letter suffix (example: Reception 301, Office 301A, Office 301B, Office Storage 301C). Assign suffix letters in the order rooms are encountered and, where possible, in the same direction as the overall numbering sequence. Only a single suffix is allowed; thus in the case where the first room already has a suffix, the next alphabetic designation shall be used. Avoid the letters "I" and "O" which may be interpreted as numbers. Large suites with many rooms can use non-suffixed numbers if it makes the numbering scheme more understandable.
- L. Each room should have only one number
  - i. Each room should have only one number regardless of the number of doors



opening into it. Exceptions can be made where a particularly large room is subdivided into different areas of use, such as by cubicles. In these cases, one-character letter suffixes are added to create unique numbers. Where the number of areas exceeds the suffixes available, additional sequential numbers should be used.

**M. Number all accessible spaces (Non-assignable spaces)**

- i. In addition to rooms, all interior spaces that can be directly accessed, such as corridors, vestibules, stairwells, elevator shafts, and accessible pipe spaces shall be numbered. Where doors or walls separate different areas of these spaces, each area shall receive its own unique number. The following room number guidelines shall be used for Non- assignable spaces.

Type	Room Number*	Notes
Porch/Deck/Ramp	XX94S	
Lobby/Foyer	XX95S	Includes lobby, foyer, vestibule, anteroom
Dock	XX96S	Includes receiving areas, loading docks
Elevator	XX97S	
Stair	XX98S	
Hall/Corridor	XX99S	Includes halls, corridors
* XX is the floor number (01, 02, 03, etc.) and S is an alphabetic suffix, i.e., A, B, C, etc.		
General notes for Non-assignable spaces:		
<p>All room numbers shall have an alphabetic suffix. Begin the numbering with the suffix rather than beginning with blank, i.e., 0198A, 0198B, etc.; NOT 0198, 0198A.</p> <p>When a building has stairs, label stairs as separate space labels rather than merging with hall/corridor space labels.</p> <p>No distinction between public and private corridors other than private corridors should typically have a “real” space label rather than be labeled using the circulation scheme.</p>		

**N. DO NOT:**

- i. Do not use two-character floor level indicators for buildings with 9 or fewer floors.
- ii. Do not number mezzanines as “M” floor level.
- iii. Do not number penthouses as “R” for roof level.
- iv. Do not use more than five or less than three characters for a room number.
- v. Do not use a letter prefix or suffix to indicate a room type (such as M101 or 101M for a first floor mechanical room).
- vi. Do not use letters except as a floor prefix, or suffix for a room accessed through another room (do not number a data room as 1D00).
- vii. Do not use periods, hyphens, spaces, or any other non-alphanumeric character in room numbers (do not number a room as 1-16 or 01.14.03).
- viii. Do not number internal courtyards and roof areas, unless covered. Exception: The uncovered top level of parking decks used for parking should be assigned



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numbers.

- ix. Do not number rooms on one side of a hallway and then back down the other side.

**O. DO:**

- i. Do number all accessible spaces, including stairwells and elevator shafts.
- ii. Do number all exterior covered spaces, whether walled or not.
- iii. Do number all penthouse spaces.

**4. STANDARDS FOR PARKING DECKS**

- A. Standalone parking decks are considered buildings and will have a building number and room numbers to cover all usable space within the structure. This also includes the top uncovered level.

**5. CONFLICTS AND SPECIAL CASES**

- A. In the case of conflicts or questions, contact the Project Manager who will coordinate with FMD.



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**00 00 10**  
**BIM REQUIREMENTS**  
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## 1.0 - PURPOSE, USE AND REQUIREMENTS

The purpose of this BIM Section is to establish baseline requirements for Design Professionals and Contractors in their Building Information Modeling (BIM) efforts related to the design and construction of University of Georgia (UGA) facility Projects.

Where BIM is required as a deliverable, the BIM Team (Design Professional and Contractor on a specific Project collaborating on BIM requirements) shall refer to and comply with the requirements of the BIM Standards. BIM is required on all Projects with total funding of \$5 million or greater. On all other projects BIM is encouraged but not required.

The use and application of BIM when required will apply to all phases of the project's lifecycle, including master planning, program analysis, project definition and schematic design, design and construction phases, and facility management. BIM is an evolving tool and the BIM Team, through the BIM Execution Plan (BEP; refer to section 00 00 10.01) development process, is encouraged to bring forth ideas and suggestions to make the process as efficient and beneficial as possible. As each Project is unique, the BIM Execution Plan will be specific and customized to each Project.

The BIM deliverable does not replace the standard project deliverables as defined in the Design Professional's and Contractor's Contracts; BIM is considered an additional deliverable. UGA requires that all design and construction document deliverables for Projects are created and derived from the building information models, and expects that information in the model be coordinated, resolved and updated with the 2D Contract Document deliverables.

It is UGA's intent to reuse the BIM models and associated data for continuing lifecycle management of the buildings, including facilities management and future development/redevelopment of those future existing buildings. It is the goal and intention that UGA shall receive deliverables to meet the needs of two separate departments. One objective being the OUA, requiring an accurate as-built BIM model with final component data to be used for future building renovations, additions and future building planning and management; the other objective being a BIM model and Construction Operations Building Information Exchange (COBie) deliverable for the FMD to capture facility and operations data that will be integrated with Computer Aided Facilities Management (CAFM) software. BIM models shall be provided throughout the design, construction and closeout phases along with corresponding data collection from the BIM models, to be submitted in COBie format to capture and record final close out data.

It is not the intent of UGA to require additional, unnecessary, or duplicative modeling efforts, and UGA recognizes that different models may be generated or not depending on each BIM Team entities' abilities or normal work processes. For example, many fabricators (ductwork, fire sprinkler piping, etc.) use software that can be developed and read in Navisworks. However, the Navisworks information cannot be brought into the Design Professional's Revit model. UGA ideally desires a complete as-built Revit model, but does not require and does not want to pay for duplicative work to take the systems modeled in Navisworks and to remodel them in Revit.

The Navisworks software will allow the Revit model to be imported into the Navisworks model resulting in a complete as-built viewable model. UGA can use Navisworks viewing software to look at the entire model to locate information embedded in the model. In this scenario, UGA will receive as final



deliverables both Revit model (missing items that were only modeled in Navisworks) and a Navisworks model (with Revit model imported into it). If a BIM Team is able to originally model all the required items in Revit without duplicating efforts, then for example, one less type of model is required as a deliverable.

UGA cannot use the Navisworks model to model future projects after the completion of the current Project and will have specific features remodeled in Revit in the future if deemed appropriate for that future Project. It is hoped that the software translation issues will be resolved soon and the issue of multiple types of models due to software incompatibilities will disappear.

Accepted software is listed below, however, other software shall be considered subject to their capabilities and benefits to the Project. Direct any questions regarding the BIM Standards to the Office of University Architects (OUA):

1. Authoring and Design Software for Architecture, Interior Design and Structure: Revit Architecture, Revit Structure, ArchiCAD, Bentley Architecture, Digital Project, Tekla Structures, Vectorworks Designer.
2. Authoring Software for MEP, FP, Specialty Consultants: Revit MEP, ArchiCAD MEP, AutoCAD MEP, AutoCAD Architecture. MEP shall use BIM Authoring Software, but may use 3D object-oriented software.
3. Civil Design: AutoDesk Civil 3D, Bentley Inroads
4. Coordination and Spatial Conflict Checking: Navisworks, BIMSight, Solibri Model Checker
5. Model Checking Utilities (Spatial validation and Industry Foundation Class) Solibri, BIMSight, Navisworks
6. Energy analysis and modeling: DOE2, EcoDesigner, Ecotect, IES-VEware, EnergyPlus, eQuest, Breen Building Studio, Trane/Trace, Vasari

## 2.0 – DEFINITIONS AND TERMS

These terms and definitions are specified for BIM Requirements. Other general definitions and abbreviations can be found in 00 00 02 Terms. Also refer to section 00 00 03 Modifications to General Requirements of BOR Contracts.

### Accuracy

The level of detail and the level of precision expected at various points in the project process are dependent on the required level of design (LOD). Accuracy refers to the placement, sizing, and representation of building components. The scale represents a mixture of 3D and 2D content at the one end to a fully 3D model at the other end that will be used in Interference Checking and As-built/Record drawings.

### As-Built Model

A digital representation of a facility produced through BIM during the construction phase of a project that contains data and other relevant information from the design model and tracks changes during construction. These are Construction Models that have been updated throughout the construction process and reflect the final as-built condition of the project and includes relevant component data that will be needed for COBie data output. Typically a model provided by the Contractor that is a concurrent model to the Design Intent/Record Model provided by the design professional.



### **Building Information Model (BIM)**

An acronym for “Building Information Modeling”, or “Building Information Model” that is a digital representation of the physical and functional characteristics of a facility and a shared resource that forms a basis for decisions during its life-cycle, from conception to demolition.

### **BIM Deliverables**

Information (in numerous formats) that may be required by Contract or agreement to be submitted or passed to another party and to UGA.

### **BIM Execution Plan (BEP)**

An outline that defines the scope of BIM implementation, identifies the process flow for BIM tasks, defines information exchanges, and the infrastructure needed for support. A plan created from the UGA’s BIM Execution Plan template that is to be submitted within thirty (30) days after Contract award. Refer to Section 01 07 00.01.

### **BIM Process**

A generic name for the practice of performing BIM. This process can be planned or unplanned. The BIM process may also be referred to as the BIM execution process or the BIM project execution process. The BIM project execution planning process suggests diagramming the BIM process using process maps.

### **BIM Process Maps**

A diagram of how BIM will be applied on a project. The BIM project execution plan proposes two levels of process maps: BIM overview map and detailed BIM use process maps.

### **BIM Team**

All Design Professionals, Contractors, and Consultants charged with delivering BIM information as defined in the BIM Standards, and listed in the BEP for a specific Project.

### **BIM Use**

A method of applying building information modeling during a facility’s life-cycle to achieve one or more specific objectives.

### **Computer-Aided Facility Management (CAFM)**

UGA’s FMD utilizes a CAFM software program to assist with maintenance of facilities.

### **Construction Model**

A digital representation of a facility produced through BIM during the construction phase of a project that contains data and other relevant information from the design model and tracks changes during construction. Typically this BIM Model is provided by the Contractor and may be used for quantity take offs, construction sequencing and phasing, clash detection, modeling of delegated design elements, and data tracking of submittal information.

### **COBie - Construction Operations Building Information Exchange**

COBie is a standard of information exchange that allows information to be captured during design and construction in a format that can be used during the operations of a building once completed. Final COBie format deliverable will be in (.XLSX) spreadsheet form.

### **Critical Path Modeling**

Critical Path Modeling is a method of demonstrating Integrated Project Delivery. It sets a plan within the BIM Team that accounts for the activities of each discipline and how they interact with each other. It builds upon a critical path method for those activities, and allows the project team to schedule a complete project.

### **Design Intent Model**

A digital representation of a facility produced through BIM to provide design intent for use in construction that is coordinated with other engineering disciplines. This type of BIM model is





typical provided by the Design Professional team and will be used to produce a combination of 3D and 2D information that is then utilized to produce the contract drawings for construction.

#### **.DWG**

.DWG is a native AutoCAD file format. It is a widely used file format for exchanging drawing information and 3D information to different programs. While not a database file type, it still has lots of uses for exchanging information.

#### **.GBxml**

A .GBxml file is a Green Building file type. It is used to run simulations through energy modeling software. It is a widely accepted file format for those types of software.

#### **Interior Design**

Interior Design is defined as the selection of interior materials, finishes, and furnishings.

#### **Integrated Project Delivery (IPD)**

Integrated Project Delivery is a collaborative effort by design professionals to maximize performance and efficiency in all phases of a project.

#### **Level of Development (LOD)**

Describes the completeness to which model elements representing components, systems, or assemblies are developed at progressive project phases. This development includes geometric and non-geometric data.

#### **Navisworks**

Navisworks is software that allows for the viewing of multiple model formats. This ability to “view” these files also allows for Navisworks to simulate the interaction between model files. That includes collision reporting, time lining, and coordination.

#### **.NWC**

An .NWC file is a Navisworks Cache File that is used by Navisworks to quickly read many other file types. All linked files in Navisworks have an .NWC file created automatically. In addition, Revit will export directly to the very small file type of .NWC for quick access by Navisworks.

#### **.NWD**

A much larger file than the .NWC, the .NWD file shows a snapshot in time of Navisworks file. No linked files exist but all geometry is included.

#### **Phases**

The phases of a project can be described in two different ways as the adoption of IPD terminology starts to penetrate the BIM Execution Plan and the IPD Methodology Plan. Below is a list of the traditional names followed by the IPD name:

- Pre-Design/Conceptualization Phase
- Schematic Design/ Criteria Design Phase
- Design Development/ Preliminary Design/ Detailed Design Phase
- Construction Documents/Implementation Phase
- Agency Permit & Bidding/Agency Coordination & Final Buyout
- Construction
- Occupancy

#### **Record Model**

Design Intent Models that have been updated throughout the construction process. These changes and updates have been communicated from the Contractor to the Design Professional through the comments, annotations, and mark-ups from the As-Built Documents. These typically, but not always, are discipline specific models.

#### **.RVT**



An .RVT file is a native REVIT file type. It is also the deliverable file format for all projects. This includes all of the design professional team's models.

### **Simple Building Information Modeling (SBIM)**

SBIM is a concept of producing a "light" model that can be used for simulating the building's performance very early within the design process. SBIM is the process of modeling only the exterior envelope, and the interior volumes to produce a lean model that energy modeling software can use easily.

## **3.0 - PROCESS**

In addition to previously stated requirements, Design Professionals and their consultants may use their own in-house standards, components and details that embed the best practices of the firm. BIM shall be created by the BIM Team that includes all geometry, physical characteristics, and component data needed to describe the design intent and Construction Documentation. All drawings and schedules required for assessment, review, bidding, and construction shall be derived from the BIM models either directly (as in schedules, floor plans, elevations, sections, project specific details, etc.) or indirectly (as may be the case with standard details). The process is to include requirements for accuracy and proficiency, Level of Development, BIM Execution Planning, Integrated Project Delivery, interference checking, COBie data management, and other requirements as defined in this section.

### **3.1 - ACCURACY AND PROFICIENCY**

BIM models shall provide accurate and correct final information about the building project and its components. Use industry standard and accepted nomenclature or UGA nomenclature (when provided or required) for objects and spaces. Use model checking tools before submission. Objects in BIM should be created and categorized appropriately within the BIM model. System families such as walls, floors, roofs, sweeps, etc. shall be properly created and categorized as what they are. Component families such as furniture, casework, specialty equipment, plumbing equipment, mechanical equipment, etc., shall also be properly created and categorized as to what they are so that component elements can be properly scheduled, quantified, and controlled within the model and have appropriate data associated with those components for latter data capture in the COBie deliverable. Use of generic component models, in-place families and/or groups should be minimized or avoided as much as possible. Modeling of the building and its components should be modeled precisely and accurately as much as possible, yet no less accurate than industry standard construction tolerances for the components being modeled. For objects that are not easily accommodated within the program due to special circumstances, such as complexity or uniqueness, then modeling an approximation of it that conforms closely to its size and look is acceptable along with categorizing it accordingly. All such occurrences should be documented and communicated to the Project Manager in writing. Accuracy and proficiency shall be expected with both 3D and 2D content.



### 3.2 - LEVEL OF DEVELOPMENT (LOD)

Level of Development (LOD) management should be utilized to assign the expected level of development for the project at the various project phases, along with what team parties are responsible for the specific LOD for each of the components defined in the BEP, at the various project phases.

The following are general LOD descriptions:

1. LOD 100: Conceptual Design - Overall building massing
2. LOD 200: Schematic Design and Preliminary Design - Generalized systems and assemblies with approximate quantities, sizes, shapes, location and orientation for analysis of required systems, including daylight, views and energy.
3. LOD 300: Construction Documents - Detailed systems and elements. Modeling and detailing sufficient enough to meet requirements of contract documents for permitting and construction.
4. LOD 400: Shop Drawings for Fabrication and Assembly
5. LOD 500: As-Built & Record Models & Drawings for Maintenance and Operations - Includes UGA required elements for final model.

### 3.3 – BIM EXECUTION PLANNING

UGA requires a BIM Execution Plan (BEP) that is customized for the specific needs and requirements of each project. Utilize the UGA BEP Template as a starting point for developing each projects BEP. The BEP shall define the uses and responsibilities of BIM on the project and its detailed process throughout the lifecycle of the project. Once the plan is approved, the team is required to follow it, monitor their progress against the plan, and make adjustments to the plan as appropriate. The BIM Execution Plan shall be considered a living document that will continue to change and evolve over the course of the project.

The steps include the following:

1. Within 30 days of Design Professional contract award:
  - A. BIM Execution Plan Overview
  - B. Project Information
  - C. Key Project Contacts
  - D. Project Goals/BIM Uses
    - i. Data Commissioning
    - ii. Performance Monitoring
  - E. Organizational Roles/Staffing per phase
  - F. BIM Process Design
  - G. BIM Information Exchanges
  - H. BIM and Facility Data Requirements
  - I. Collaboration Procedures
  - J. Quality Control Reviews
  - K. Technological Infrastructure Needs
  - L. Model Structure
  - M. Project Deliverables Per Phase
  - N. Delivery Strategy/Contract



2. Template: Utilize the UGA BIM Template as the starting point for project specific BEP.

When developing the BEP project goals for the BIM model and BIM data, the desired end results should be identified. How will the model be used during the project and after the project is completed? What data will need to be captured and delivered in COBie spreadsheet format? How will that data be used by the Owner? How will these objectives start to define how the model and its data are created and defined?

### **3.4 – INTEGRATED PROJECT DELIVERY (IPD) METHODOLOGY PLAN**

The BIM Team's IPD Methodology Plan should be integrated into the BEP and be subject to the same submittal and review time table as the BEP. The IPD Plan must include a high level of integrated design, identification of project team members and how they will interact with each other during the project, and a critical path method using modeling and model information validation.

While it is understood that most projects will not be a full IPD project in the strictest sense of the word due to current contract structure, there are however many aspects of IPD methodology that can and should be integrated with BIM. Most notably, the IPD aspects of the planning for and sharing of model information with and between the design professional and constituents but also with the Contractors and sub-contractors should be incorporated. A plan for collaboration between the Design Professional and Contractor (and subcontractor) should be outlined in such a way as to provide for this collaboration to start occurring as soon as feasibly possible within the design and construction phase process.

An important aspect of this IPD Methodology Plan is the outlining of how data will be developed and progressed throughout the project. Outlining and assigning who is responsible for the data and model development at each phase and at what point the data will be handed off to a different party. This will be especially important with regards to how COBie data will be developed and coordinated, this is because multiple parties will be responsible for different data entry at different phases, and all data will have to be integrated at the end into a unified single deliverable for submittal to UGA.

A detailed description and mapping of what data will be needed as part of the final delivery is an important part of the BEP & IPD methodology. For example; data fields will be need to be defined for uploading into the Owner's CAFM program. Required data fields that are available in the BIM model will have to be identified and data that will have to come from other sources will have to be identified. These required data fields will then need to be mapped to their corresponding COBie data fields. It will be necessary to show how required data that can be captured from the BIM model will get from the BIM model(s) to the COBie spreadsheets and finally uploaded into the Owner's FM database program. In addition, data that was entered into the COBie spreadsheets separately from the model and that need to be re integrated back into the BIM model(s) will need to be identified. If there are multiple models then the data from each model will have to be identified and managed so that data from multiple models can be consolidated together into the required COBie worksheets. This will require a great deal of project team integrated delivery coordination and planning.

The BEP and IPD methodology cannot be delivered in isolation. No one party within the BIM Team can adequately outline the execution plan, while also obtaining the necessary team member commitments for successful BIM implementation. Full coordination and collaboration by all parties is an absolute necessity. The following aspects of an integrated work plan shall be addressed:



1. Setup of initial BIM Schedules and project parameters within the BIM model to establish and organize the capture of spatial and component data information for future distribution and export.
2. Use Omniclass Table 13 for spatial naming conventions and Omniclass numbers for all spatial data. Where multiple naming options are available determine which Omniclass names will be utilized.
3. Use Omniclass Table 23 for component and product naming conventions and Omniclass numbers for all building components requiring COBie information. Determine which components and products will be tracked and data collected.
4. Determine the specific data required for each space or component and the assignment of spatial, system, component and other data responsibilities and authorship.
  - A. Spatial data
  - B. FF&E components
  - C. Structural components
  - D. Special Equipment components
  - E. Mechanical Equipment components
  - F. Electrical Equipment components
  - G. Plumbing Equipment & Accessories
  - H. Design phase versus Construction phase data
  - I. Commissioning Data
  - J. Close-out Data
  - K. As-Built / Record model and associated data
5. Coordinate the authorship and responsibility at each phase and establish procedures and schedules for when component data responsibility will transfer to another BIM Team entity. (i.e Mechanical components – initial BIM schedules and project parameters for future data entry established by Architect, then actual modeled components to be originally authored by Mechanical Engineer, transferred to Contractor for submittal phase development by subcontractor, utilized in clash detection, and final data entry of submitted component data such as make, model, and serial numbers. Then any required data by commissioning agent, and final delivery of all final as-built modeling and component data into final deliverable formats to the Owner, including BIM Model and COBie spreadsheets.)
6. Recognize and identify separate deliverable requirements for both OUA and for FMD, and provide plan for meeting separate needs of each Owner entity requirements.
  - A. OUA will require an As-Built Model sufficiently developed and modeled for use in planning and design of future project additions and alterations to the current Project. Due to incompatibilities of software and the desire not to duplicate modeling efforts, OUA will accept multiple As-Built Models if necessary to document all of the required information. For example, a Revit model (that is missing as-built ductwork) and a Navisworks model (that has the Revit model imported and includes the ductwork) may be accepted in lieu of one Revit model.
  - B. In addition to OUA requirements, FMD will also require As-Built Data in COBie format suitable for integration into their CAFM software.
7. Identify data that may need to be reintegrated into a combined final As-Built model, if data was not generated from that model.

The workflow and progress of this information gathering, collecting and submitting may vary depending on size and type of project, data desired, abilities of the various parties involved, and contractual



relationship of the various parties. It is estimated that a minimum of three to four meetings will be needed to develop the overall strategy, and all key decision makers will need to be involved, including (but not limited to) the Design Professional, Owner's representatives, Structural & MEP Engineers, Contractor, major Sub Contractors, and Commissioning Agent as early in the process as feasibly possible. It may become necessary to revise and update the BEP as additional parties and stake holders come on board. The BEP shall be revised, updated and resubmitted at each major project phase.

#### 4.0 – OBJECTIVES, APPLICATION & DELIVERABLES

The following items are specific BIM deliverables and/or coordination items required at the completion of each phase. These are in addition to the traditional deliverables required by Contract or other deliverables required in the UGA Design and Construction Standards.

#### 4.1 – PRE-DESIGN/CONCEPTUALIZATION

1. **Project Objectives and BEP:** Provide a written summary description of project objectives as part of the initial BIM Execution Plan (BEP) for review and approval.
2. **Programming and Planning Tools:** The design professional is encouraged to use electronic programming and planning tools that integrate into their BIM software to capture early cost, schedule and program information. Deliverables at the end of Pre-Design shall verify and confirm the program, budget, schedule and targeted building efficiency. The design professional shall use BIM & Planning software for use in supporting comparative costs analysis of various design options.
3. **Existing Building Conditions:** The Design Professional shall model existing conditions needed to coordinate the extent of the new construction work where work includes additions or alterations. Contact Project Manager for drawing inventory of existing buildings for use as a base reference only. Refer to section 01 31 00.01 – Access to Existing Documents. Unless otherwise specified, the Design Professional is responsible for verification of existing conditions and ensuring that all electronic deliverables are accurate and comply with requirements.
4. **Simplified BIM (SBIM) Model:** The design professional shall develop a simplified BIM model formatted for use in conceptual energy modeling for comparative analysis and other early Pre-Design Conceptualization efforts, this may be in the form of a simplified mass model or other LOD: Level One type of model as appropriate for the early analysis requirements listed in this phase. At least three design options shall be developed and presented; including site information.
5. **Site & Topographical Surveys:** Topographical surveys shall be received from Project Manager in electronic format in a format that allows for importing into the BIM Team's BIM software. Exact requirements vary by Project and shall be coordinated with the Project Manager. Site information shall be included as part of the Pre-Design Conceptualization phase and coordinated with the required three design options. Any site, environmental or historic building aspects or constraints should be addressed in the Pre-Design Conceptualization models as required.
6. **Energy Modeling Requirements:** The purpose at this early phase, is to narrow down design strategies to meet project's energy goals and targets, including the reduction of energy demand by optimizing building form and orientation and daylight. Comparative energy analysis shall be based on local climate data and actual site conditions for summer and winter. The BIM Team shall utilize the simplified BIM model for use in conceptual energy modeling for comparative analysis, as appropriate for the early analysis software chosen by the BIM Team. At least three



design options that meet the project program and budget shall be compared and results given in “Percent Better” or “Percent Worse”.

7. **Visualization:** The SBIM model shall be utilized to produce 3D & 2D views of each scheme required as appropriate to demonstrate integration of proposed schemes with the surrounding roads, drives, pedestrian paths, access and program requirements. Deliverables shall include rendered views as required to communicate early concept design intent.

## 4.2 – SCHEMATIC DESIGN

1. **Project Objectives, BEP & Budget:** Provide a written description of project objectives as part of the initial BIM Execution Plan (BEP) for review and approval. Schematic Design defines the optimum design solution to meet UGA’s aesthetic, program, budget and schedule while still being on track for energy, sustainability (if required) and building code requirements. Updated Budget/Cost estimates and updated Schedule shall also be provided at this phase.
2. **Program and Space Validation:** Provide a program and space validation report that utilizes spatial data, which includes room areas derived from the BIM model. Program verification software (for example: Trelligence Affinity) that integrates with the BIM model is encouraged. Areas shall include assignable areas (ASF) and non-assignable areas. Mechanical, electrical, telecommunications, housekeeping, toilet facilities, corridors and other circulation areas shall be labeled and their areas tabulated. Figures for net floor area and gross area shall be tabulated for compliance with Building Efficiency Target. Gross areas include wall thicknesses and open voids, per floor. In addition provide initial spatial data in COBie format (see COBie Data item below).
3. **Existing Building Conditions & Existing Utilities Report:** The Design Professional shall continue to model existing conditions needed to coordinate the extent of the new construction work where work includes additions or alterations. Unless otherwise specified, the Design Professional is responsible for verification of existing conditions and ensuring that all electronic deliverables are accurate and comply with requirements. At this phase an existing utilities report should also be provided for impact on schematic design solution.
4. **BIM Model:** All information required for Schematic Design level of development shall be graphically and alphanumerically correct, included in, and derived from the BIM model. Including, room and building areas and names. Model shall meet UGA’s functional and aesthetic requirements while still meeting budgetary and sustainability demands. BIM model to be sole source of all 2D drawings, being derived from the model. Generic and “place holder” system and component families may be utilized for this model deliverable. The model shall contain a high level of accuracy and proficiency as the design develops. Provide work set organization and coordinate work set management as part of BEP.
5. **Site & Topographical Surveys:** The site BIM model shall be geo-referenced to the correct coordinate system. Establish protocols and procedures for sharing and coordinating BIM Model origin points so that all consultant models may be correctly loaded into one another’s models for reference, coordination and documentation purposes. Document the procedures for coordination in the BEP. Surveys shall be projected in State plane coordinates Georgia West using the horizontal North American Datum 1983 and the vertical North American Vertical Geodetic Datum 1988 both in units of feet. Design Professional shall coordinate with Project Manager on contour interval and requirements for surveys. See 02 21 00 – Surveys for specific requirements. It is understood that not all BIM programs are compatible with State map coordinate references, if so establish a common origin point between BIM models and Survey / Site information and document in the BEP.



6. **Energy Modeling Requirements:** BIM Team shall continue development of energy model on the selected scheme for Schematic Design to optimize focus on the most promising energy saving strategies. Document how the model will progress at each phase and which BIM Team member is responsible for the energy model at each phase. (For example, the early phase energy analysis might be performed by the architect utilizing a basic level program such as Revit in conjunction with Green Building Studio, then progress to an energy consultant who might utilize a more advanced program such as Ecotect or IES-VEware, and then finally progress to the mechanical engineer who will do final energy modeling using a program like eQuest.) Document a plan for how the energy model will develop in each phase of the project, identifying responsible parties, software, and integration with the BIM model in the BEP. Information shall include life-cycle cost (LCC) and return on investment (ROI).
7. **Visualization:** The BIM model shall be utilized to produce 3D & 2D views of each scheme required as appropriate to demonstrate development of the selected scheme for Schematic Design. Deliverables shall include any rendered views as required to communicate Schematic Design intent.
8. **Collision Report:** At this phase additional models and information may not yet be developed enough for true interference or clash detection. Provide plan for future phase interference and/or clash detection in the BEP.
9. **COBie Data:** At Schematic Design Phase initial COBie data shall be limited to Facility, Floor and Space information only. COBie Data shall be submitted in spreadsheet format, using the most current version of COBie. The following COBie worksheets shall be provided in the Schematic Design deliverable:
  - A. **COBie Table 6-20 Worksheet 01:** Contact (People/Offices/Companies)  
This worksheet may be generated in the spreadsheet outside of the BIM program
  - B. **COBie Table 6-21 Worksheet 02:** Facility (Identification of facility (ies))  
This worksheet may be generated in the spreadsheet outside of the BIM program
  - C. **COBie Table 6-22 Worksheet 03:** Floor (description of vertical levels)  
This worksheet may be generated in the spreadsheet outside of or derived from the BIM model
  - D. **COBie Table 6-23 Worksheet 04:** Space (Spaces within a floor)  
This worksheet shall be derived from the BIM model utilizing scheduled rooms from the BIM model, including assignable and non-assignable areas; mechanical, electrical, telecommunications, housekeeping, toilet facilities, corridors and other circulation areas.

Coordinate actual data needed in each worksheet with OUA and FMD requirements. Document required data necessary in COBie worksheets and document the components which need to have data generated and captured in the BEP. It is not necessary to provide data on all model components only those required. Schedule planning meetings to determine the scope and extents of elements and components that will need to be captured in COBie worksheets, and provide a mapping scheme for migrating data fields in the BIM model to the data fields in the COBie spreadsheets as part of the BEP.

#### 4.3 – PRELIMINARY DESIGN (DESIGN DEVELOPMENT)

1. **Project Objectives, BEP & Budget:** The BIM Team shall provide a written description of project objectives as part of the initial BIM Execution Plan (BEP) for review and approval. Preliminary Design will show the refinement of the scope of work identified during the Schematic Design





Phase. It will also have reconciled the impact of the engineering disciplines on the Schematic Design, and have major structural and MEP systems modeled at this time to demonstrate the integration of the original schematic design concepts with the engineering requirements. Updated Budget/Cost estimates and updated Schedule shall also be provided at this phase. BEP should document the various design models from the BIM Team entities. Use BIM software to extract more accurate figures for cost estimating. Outputs shall be on spreadsheets and submitted at the end of this phase.

2. **Program and Space Validation:** Provide an updated program and space validation report that utilizes spatial data which includes room areas derived from the BIM model. Verify building efficiency targets. In addition provide spatial data in COBie format (see COBie Data item below)
3. **Existing Building Conditions & Existing Utilities Report:** The Design Professional shall continue to model existing conditions needed to coordinate the extent of the new construction work where work includes additions or alterations. Unless otherwise specified, the Design Professional is responsible for verification of existing conditions and ensuring that all electronic deliverables are accurate and comply with requirements. At this phase existing utilities should be identified, documented and coordinated with base MEP systems and show how new MEP systems will tie into the existing utilities.
4. **BIM Model:** All information required for Preliminary Design level of development shall be graphically and alphanumerically correct, included in, and derived from the BIM model. Including, room and building areas and names. Model shall meet UGA's functional and aesthetic requirements while still meeting budgetary and sustainable, if this is required, demands. BIM model to be sole source of all 2D drawings, being derived from the model. Generic and "place holder" system and component families should be replaced with proposed system and component families. A model to contain a high level of accuracy and proficiency as the design develops. Provide additional scope of work coordination regarding how final building elements are going to be modeled between BIM Team entities and documented in the BEP. For example certain structural elements such as floor slabs can be the responsibility of the Architect or Structural Engineer. In some cases the elements may be duplicated, copy/monitor may be utilized, if so, how and for which elements, document in BEP. Additional modeling Requirements:

- A. **Architectural Systems Requirement:** Architectural Site Plan, existing building elements or conditions, demolished items, new interior and exterior walls (not generic types), ceilings, soffits, sun control elements, floors and roof systems, penthouses and roof structures, fenestration and doors, vertical circulation, built in millwork and architecturally significant equipment, furnishings and fixtures, plumbing fixtures.
- B. **Structural Engineering Requirements:** Foundations, framing, shear and load bearing walls, brick ledges, steel bracing, edge of slab conditions, lintels.
- C. **HVAC Systems Requirements:** Equipment such as fans, VAV's, compressors, chillers, cooling towers, air handlers, etc.; Distribution ductwork modeled to outside ductwork or duct insulation; Diffusers, louvers, hoods, radiant panels, perimeter units, wall units; Show clearances required for equipment access, removal or repair as invisible solids.
- D. **Electrical Systems Requirements:** Transformers, generators, main distribution panels, switchgear, main IDF's, conduit and feeders larger than ¾" diameter, outlets, switches, junction boxes, lighting fixtures and controls, fire alarm permanently mounted fixtures, building controls and clearance zones for access.
- E. **Plumbing, Process Piping & Fire Protection Requirements:** Waste/Vent , Supply or Process Piping at or over ¾" (includes any insulation); plumbing fixtures; sprinkler lines



larger than ¾" diameter, sprinkler heads, pumps, stand pipes, wall hydrants, connections and risers.

- F. **Specialty Consultants Requirements:** Equipment provided or specified by consultant with rough –in connection points for all utilities and clearances required. Extent of modeling shall be per the BIM Execution Plan.
5. **Site & Topographical Surveys:** The model shall include topography with level of detail per the BIM Execution Plan. Model should include surrounding areas that affect drainage system or have other impacts. Landscaping elements shall include planted areas, beds and berms, hardscape, site paving and storm water management structures or systems.
6. **Energy Modeling Requirements:** Continued development of energy model on the selected scheme from Schematic Design to optimize focus on the most promising energy saving strategies is required. Parametric studies to better understand the energy use of each building component are required. Model shall meet any target requirements for sustainability and/or LEED or other third party verification. Model shall include all the design and operating parameters that affect energy consumption after occupancy. Expected occupant numbers and hours, lighting use, equipment use, and other user data shall be included to attain a closer approximation of actual use. Requirements shall include options for Energy Conservation Measures (ECM) to achieve further reductions in water, electricity or energy in the facility. Information shall include life cycle cost (LCC) and return on investment (ROI). Update the plan for how the energy model will be utilized at this and future phases of the project, identifying responsible parties, software, and integration with the BIM model in the BEP.
7. **Collision Report:** At this phase additional models and information shall be developed enough for true interference and/or clash detection. Discipline Collision Reports: Collision report shall include; structure against electrical and specialty equipment; ductwork / piping against electrical equipment; ductwork / piping against floors and the building envelope; ductwork / piping against structural framing elements.
8. **COBie Data:** At Preliminary Design Phase COBie data shall be submitted in spreadsheet format, using the most current version of COBie. The following COBie worksheets shall be provided in the Preliminary Design deliverable:
  - A. **COBie Table 6-20 Worksheet 01:** Contact (People/Offices/Companies)
  - B. **COBie Table 6-21 Worksheet 02:** Facility (Identification of facility (ies))
  - C. **COBie Table 6-22 Worksheet 03:** Floor (description of vertical levels)  
The following worksheets shall be derived from the BIM model utilizing scheduled rooms/elements from the BIM model.
  - D. **COBie Table 6-23 Worksheet 04:** Space (Spaces within a floor)
  - E. **COBie Table 6-26 Worksheet 07:** Component ( named components & equipment)

Coordinate actual data needed in each worksheet with OUA and FMD requirements. Document required data necessary in COBie worksheets and document the components which need to have data generated and captured in the BEP. It is not necessary to provide data on all model components only those required. Schedule planning meetings to determine the scope and extents of elements and components that will need to be captured in COBie worksheets, and provide a mapping scheme for migrating data fields in the BIM model to the data fields in the COBie spreadsheets as part of the BEP.



#### 4.4 – CONSTRUCTION DOCUMENTS (CONTRACT DOCUMENTS)

1. **Project Objectives, BEP & Budget:** The BIM Team shall provide a written description of project objectives as part of the initial BIM Execution Plan (BEP) for review and approval. Continued development of the model so that the design intent and scope of work is detailed and annotated, graphically clear for accurate bidding, scheduling and construction purposes. Updated Budget/Cost estimates and updated Schedule shall also be provided at this phase. BEP should document the various design models from the BIM Team entities. Use BIM software to extract more accurate figures for cost estimating. Outputs shall be on spreadsheets and submitted at the end of this phase.
2. **Program and Space Validation:** Provide an updated program and space validation report that utilizes spatial data which includes room areas derived from the BIM model, and verifies that final design matches original program intent. Verify building efficiency targets. In addition provide spatial data in COBie format (see COBie Data item below).
3. **Existing Building Conditions & Existing Utilities Report:** The Design Professional shall continue to model existing conditions needed to coordinate the extent of the new construction work where work includes additions or alterations. Unless otherwise specified, the Design Professional is responsible for verification of existing conditions and ensuring that all electronic deliverables are accurate and comply with requirements. At this phase existing utilities shall be identified, documented and coordinated with base MEP systems and show how new MEP systems will tie into the existing utilities.
4. **BIM Model:** All information required for Construction Documents level of development shall be graphically and alphanumerically correct, included in, and derived from the BIM model, including Room and Building Areas and names. Model shall meet UGA's functional and aesthetic requirements while still meeting budgetary and sustainable, if this is required, demands. The BIM model to be the sole source of all 2D drawings, being derived from the model. Generic and "place holder" system and component families should be replaced with actual representational system and component families that accurately reflect the desired design intent. The model is to contain a high level of accuracy and proficiency as the model is developed. Maintain parametric links within the model so that plans, sections elevations, custom details, schedules and 3D views are automatically generated and referenced. 2D details and section information should be consistent with and accurately match with corresponding 3D information within the scale being referenced. Do not hide 3D geometry that does not match 2D details and then draw a differing condition in 2D, 3D geometry shall accurately reflect design intent of 2D detailing. Provide additional scope of work coordination regarding how final building elements are going to be modeled between BIM Team entities and document in the BEP. Refine load calculations, wind pressure, daylighting, acoustics, natural ventilation, code issues. Extent of modeling shall be per the BIM Execution Plan. Additional modeling Requirements:
  - A. **Architectural Systems Requirement:** Architectural Site Plan, existing building elements or conditions, demolished items, new interior and exterior walls (not generic types), ceilings, soffits, sun control elements, floors and roof systems, penthouses and roof structures, fenestration and doors, vertical circulation, built in millwork and architecturally significant equipment, furnishings and fixtures, plumbing fixtures.
  - B. **Structural Engineering Requirements:** Foundations, framing, shear and load bearing walls, brick ledges, steel bracing, edge of slab conditions, lintels.
  - C. **HVAC Systems Requirements:** Equipment such as fans, VAV's, compressors, chillers, cooling towers, air handlers, etc.; Distribution ductwork modeled to outside ductwork or



- duct insulation; Diffusers, louvers, hoods, radiant panels, perimeter units, wall units; Show clearances required for equipment access, removal or repair as invisible solids.
- D. **Electrical Systems Requirements:** Transformers, generators, main distribution panels, switchgear, main IDF's, conduit and feeders larger than ¾" diameter, outlets, switches, junction boxes, lighting fixtures and controls, fire alarm permanently mounted fixtures, building controls and clearance zones for access.
  - E. **Plumbing, Process Piping & Fire Protection Requirements:** Waste/Vent , Supply or Process Piping at or over ¾" (includes any insulation); plumbing fixtures; sprinkler lines larger than ¾" diameter, sprinkler heads, pumps, stand pipes, wall hydrants, connections and risers.
  - F. **Specialty Consultants Requirements:** Equipment provided or specified by consultant with rough –in connection points for all utilities and clearances required. Extent of modeling shall be per the BIM Execution Plan.
5. **Site & Topographical Surveys:** The model shall include topography with level of detail per the BIM Execution Plan. Model should include surrounding areas that affect drainage system or have other impacts. Landscaping elements shall include planted areas, beds and berms, hardscape, site paving and storm water management structures or systems.
  6. **Energy Modeling Requirements:** Provide comparison of proposed final design to the minimally code-compliant base-case building. Model shall meet any target requirements for sustainability and/or LEED or other third party verification. Model shall include all the design and operating parameters that affect energy consumption after occupancy. Expected occupant numbers and hours, lighting use, equipment use, and other user data shall be included to attain a closer approximation of actual use. Requirements shall include options for Energy Conservation Measures (ECM) to achieve further reductions in water, electricity or energy in the facility. Information shall include life cycle cost (LCC) and return on investment (ROI).
  7. **Collision Report:** Pre-Bid Collision Reports. Collision reports to verify that no major unresolved collisions are occurring in the Design Professional Design Intent models. Discipline Collision Reports: Collision report shall include; structure against electrical and specialty equipment; ductwork / piping against electrical equipment; ductwork / piping against floors and the building envelope; ductwork / piping against structural framing elements.
  8. **COBie Data:** At Construction Document Phase COBie data shall be submitted in spreadsheet format, using the most current version of COBie. The following COBie worksheets shall be provided as part of the Construction Document deliverable:
    - A. **COBie Table 6-20 Worksheet 01:** Contact (People/Offices/Companies)
    - B. **COBie Table 6-21 Worksheet 02:** Facility (Identification of facility (ies))
    - C. **COBie Table 6-22 Worksheet 03:** Floor (description of vertical levels)  
The following worksheets shall be derived from the BIM model utilizing scheduled rooms/elements from the BIM model.
    - D. **COBie Table 6-23 Worksheet 04:** Space (Spaces within a floor)
    - E. **COBie Table 6-26 Worksheet 07:** Component ( named components & equipment)

Coordinate actual data needed in each worksheet with OUA and FMD requirements. Document required data necessary in COBie worksheets and document the components which need to have data generated and captured in the BEP. It is not necessary to provide data on all model components only those required. Schedule planning meetings to determine the scope and extents of elements and components that will need to be captured in COBie worksheets, and provide a mapping scheme for migrating data fields in the BIM model to the data fields in the COBie spreadsheets as part of the BEP.



#### 4.5 – BIDDING/PROCUREMENT PHASE

1. **General:** Depending on how project is to be delivered, additional BIM requirements for model sharing may or may not be required on a project by project basis. Document any specific BIM deliverables for this phase in the BEP.

#### 4.6 – CONSTRUCTION PHASE

1. **BIM Execution Plan (BEP) Review:** The BIM Team and UGA shall review the BEP and make necessary changes and updates to insure the smooth continual coordination of BIM modeling information and data collection and integration. The BEP shall be updated to include Commissioning into the BIM and COBie process.
2. **Design Intent Model:** The BIM Team shall continuously maintain and update the design intent model(s) with changes from Construction Change Orders and as-built mark-ups provided by the Contractor(s) during construction. Updated models shall be provided in .RVT format per the BEP for frequency and location.
3. **Construction Models:** A BIM construction model(s) shall be developed and maintained by the Contractor in .RVT format. The Contractor shall be provided a copy of the Design Professional's BIM Models(s), the Contractor shall then utilize that model to develop a concurrent construction model that he will develop for Construction Phase needs. The Construction phase model may be developed and modified as required to inform: materials, quantities, sequencing, phasing, clash detection, etc. as required by the Contractor and his Sub-Contractors. Additional construction models shall also be developed for fabrication, coordination and shop drawings. These additional construction models may be in other formats other than BIM, if they are in other formats other than .RVT then the Contractor shall review and consolidate those models utilizing Navisworks, and providing a coordinated Navisworks model as a deliverable in .NWD format, during the construction phase at a frequency to be documented in the BEP. As-Built modeling and documentation in the Construction .RVT and .NWD models by the Contractor shall be concurrent with updates to the Design Intent model(s) by the design professional team. It is not the intent of UGA to require additional, un-necessary, or duplicative modeling efforts, and UGA recognizes that different models may be generated or not depending on each BIM Team entities abilities or normal work processes. UGA in any event would like a consolidated As-Built Model in Navisworks (.NWD) that will consolidate all differing modeling methods into one reference. Discussion among all BIM Team parties is expected in determining final BIM deliverables, and all final deliverables shall be documented in the BEP and agreed to by all parties.
4. **COBie Data:** At the beginning of the Construction Phase the Contractor shall take over responsibility for the COBie Data for elements and component data. The Design Professional will maintain responsibility for the COBie Data for spatial data (Rooms and Areas) and other general information. The purpose and intent is for the Contractor to provide the additional data that will come from the shop drawing and product submittal process, delegated design elements, and redesigned systems that are the responsibility of the Contractor and Sub-contractors. The following COBie worksheets (1-4) shall be the responsibility of the Design Professional Team and provided as part of the Construction Phase deliverables per the BEP:
  - A. **COBie Table 6-20 Worksheet 01:** Contact (People/Offices/Companies)
  - B. **COBie Table 6-21 Worksheet 02:** Facility (Identification of facility (ies))
  - C. **COBie Table 6-22 Worksheet 03:** Floor (description of vertical levels)
  - D. **COBie Table 6-23 Worksheet 04:** Space (Spaces within a floor)



The following COBie worksheets (5-7) shall be derived from the BIM model utilizing scheduled information from the BIM construction model and shall be provided by the Contractor per the BEP.

- E. **COBie Table 6-26 Worksheet 07:** Component (named components & equipment)

Coordinate actual data needed in each worksheet with UGA OUA and UGA FMD requirements. Document required data necessary in COBie worksheets and document the components which need to have data generated and captured in the BEP. It is not necessary to provide data on all model components only those required. Schedule planning meetings to determine the scope and extents of elements and components that will need to be captured in COBie worksheets, and provide a mapping scheme for migrating data fields in the BIM model to the data fields in the COBie spreadsheets as part of the BEP.

#### 4.7 – PROJECT CLOSEOUT

1. **Record Model & Drawings:** The BIM Team shall provide the final update to the Design Intent BIM Model(s) thus producing the Record BIM Model. Record model to contain all changes from Construction Change Orders and as-built markups provided by the Contractor throughout the Construction Phase process. Final Record Model shall be provided in .RVT format and .IFC formats. Record drawings will be provided as updated 2D documentation of Contract Drawings in .PDF and .DWG format or as otherwise defined in the Contract and 01 77 00 Project Closeout.
2. **As-Built Model & Drawings:** The Contractor shall provide the final update to the Construction BIM Model(s) thus producing the As-Built BIM Model. As-Built BIM Model(s) to contain all changes from Construction Change Orders and As-built markups and documentation as recorded by the Contractor throughout the Construction Phase process. Final As-Built Model shall be provided in .RVT format, .IFC format, and .NWD format.
3. **COBie Data:** The following COBie worksheets (numbered 1-4) shall be the responsibility of the Design Professional Team and shall be provided as part of the Project Closeout Phase deliverables per the BEP:
  - A. **COBie Table 6-20 Worksheet 01:** Contact (People/Offices/Companies)
  - B. **COBie Table 6-21 Worksheet 02:** Facility (Identification of facility (ies))
  - C. **COBie Table 6-22 Worksheet 03:** Floor (description of vertical levels)
  - D. **COBie Table 6-23 Worksheet 04:** Space (Spaces within a floor)

The following COBie worksheets (numbered 5-11) shall be derived from the BIM model utilizing scheduled information from the BIM Construction Model(s) and shall be provided by the Contractor as part of the Project Closeout Phase deliverables per the BEP.

- E. **COBie Table 6-24 Worksheet 07:** Component (named equipment)

Coordinate actual data needed in each worksheet with OUA and FMD requirements. Document required data necessary in COBie worksheets and document the components which need to have data generated and captured in the BEP. It is not necessary to provide data on all model components only those required. Schedule planning meetings to determine the scope and extents of elements and components that will need to be captured in COBie worksheets, and provide a mapping scheme for migrating data fields in the BIM model to the data fields in the COBie spreadsheets as part of the BEP



### 5.0 – COMPONENT WORKSHEET

Use the following Component Worksheet for determining which components will be tracked and assigned COBie data. This is a general list that may need to be expanded depending on the project and its components, adjust as needed and include as part of the BEP documentation and as the starting point for determining the extent of COBie data modeling required for each project.

Components to have COBie Data		
<b>SITE</b>		
Area Wells / Grating		N
Equipment Curbs		N
Building Pads		N
Planting		N
Sidewalks		N
Parking Stripes		N
Roads		N
Property lines		N
Topography		N
<b>General</b>		
<b>Exterior</b>		
Walls		N
Wall system		N
Windows		N
Glazing		N
Mullions		N
Header / Sill Height		N
Doors		N
Jambs		N
Door Type		N
Hardware		N
Steps		N
Ramps		N
<b>Interior</b>		
Walls		N
Walls to Deck		N
Walls above ceiling		N
Walls – Partial height		N
Wall Types		N
Doors		N
Door types		N
Door jambs		N
Door header height		N
Door Schedule		N

<b>Windows</b>		
Window Types		N
Glazing		N
Mullions		N
Header / Sill Height		N
<b>Circulation</b>		
Floor Type		N
Floor Finish		N
Handrails		N
Raised Floor System		N
Stairs		N
Ramps		N
Elevator		Y
Escalators		N
<b>Restrooms</b>		
Toilet partitions		N
Toilets		N
Grab bars		N
Sinks		N
Fixtures & Accessories		N
<b>Misc.</b>		
Wall Protection / Corner Guards		N
Fixed millwork		N
Fire Extinguishers		N
Mechanical Chases		N
Vertical penetrations		N
Floor penetrations		N
Columns - Architectural		N
Room Numbers		Y
Personnel assignment / occupant		N
<b>Kitchen Equipment</b>		
Stove		N



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Grill	N
Vent hood	N
Prep table	N
Mixer	N
Walk-in cooler/freezer	N
Reach-in cooler/freezer	N
Fryer	N
Fire suppression equipment	N
Steam table	N
Cold food table	N
Ice machine	N
Soda fountain	N
<b>Rooftop</b>	
Roof type	N
Roof construction	N
Vent pipes	N
Exhaust fans	N
Roof drains	N
Gutters	N
RTU curbing	N
Roof railings	N
Parapet walls	N
Roof top mechanical equipment	Y
Skylights	N
<b>Reflected Ceiling Plans</b>	
Ceiling Type	N
Skylights	N
Signage	N
Electrical fixtures	N
Electrical devices	N
<b>Specialty Equipment</b>	
Cold rooms	N
Emergency drench hose	N
Emergency eye wash	Y
Emergency shower	Y
Emergency shower/eyewash	Y
Eyewash shower	N
Exhaust fumehood	Y
<b>Furniture</b>	
Desk	N

Chair	N
Table	N
Side chair	N
Bookshelf	N
File cabinet	N
Credenza	N
Desktop computer	N
Laptop computer	N
Monitor	N
Printer	N
Copier	N
Plotter	N
UPS	N
Phone - handset	N
Phone - mobile	N
Fax machine	N
Artwork	N
Casework - fixed	N
<b>Structural</b>	
Beams	N
Columns	N
Connections	N
Gusset plates	N
Bolts	N
Flange widths	N
Joists	N
Anchor bolts	N
Base plates	N
Misc. steel	N
<b>Mechanical</b>	
HVAC equipment	Y
HVAC registers/returns	N
Sprinklers	N
Air terminals – supply/returns	Y
HVAC flex ducts	N
HVAC trunks	N
HVAC ducts	N
Sprinkler trunk	N
Mechanical equipment	Y
Sprinkler heads	N
Sprinkler lines	N
Fire hoses	N
AHU 100 + tons	Y





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AHU 25/99 ton	Y
AHU 3/24 ton	Y
Air compressor	Y
Air drier	Y
Computer AC unit	Y
Condensing unit	Y
Constant velocity	N
Cooling tower	N
Custodial chemical dispenser	N
CW pump	N
DDTU	N
Dehumidifier	N
Domestic water filters	N
Dryer	N
Energy recovery unit	Y
Exhaust fan	Y
Exhaust fan/fumehood	Y
Fan coil unit	Y
Fresh air supply fan	N
Fumehood	Y
HVAC vents	N
Pack AC	N
Residential furnace	N
Return air fans	N
Roof top AC unit	N
SAC	N
Steam humidifier	Y
Steam boiler	Y
Terminal reheat unit	Y
Terminal unit	Y
UHBE	N
UHBG	N
UHBS	N
UHBW	N
Unit heater electric	N
Unit heater water	Y
VAV	Y
Window AC	N
Hot water pumps	Y
Domestic booster pumps	Y
Process chilled water pumps	Y
Solar panel (water)	Y
<b>Electrical</b>	
Switches	N

Receptacles	N
Data/CATV outlets	N
Alarm devices	N
Thermostats	N
Sconces	N
Fire cabinets	N
Electrical panels	Y
Wiring troughs in slabs	N
Floor receptacles	N
Light fixtures	Y
Speakers	N
Exit lights	Y
Emergency exit lights	Y
Cameras	N
Exhaust fans	Y
Emergency strobes	N
Electrical conduits $\geq \frac{3}{4}$ "	Y
Electrical conduits $< \frac{3}{4}$ "	N
Data lines	N
Fire dampers	N
Hangers	N
Cable trays	N
Data port ID	N
Circuit ID	N
Transformers	Y
Transformer switches	Y
Emergency generator	Y
Switchboard	Y
Switchgear	Y
High voltage switches	Y
<b>Plumbing</b>	
Plumbing fixtures	N
Major plumbing trunk lines	N
Minor plumbing supply lines	N
Plumbing drain lines	N
Disconnects and shut off valves	N
Hose bibbs	N
Fire connections	N
Acid dilution tanks	Y
CD pump	N
Chiller	N
Chiller process	Y
Coalescing filters	N
Faucets	N



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Floor drains	N
Roof drains	N
Grease traps	N
Heat pump	N
Heater	N
Hot water strainer	N
HW pump	N
Inlet vane	N
Liebert unit	Y
Outdoor fountain	N
PIU	N
Processed chilled water	N
Processed chilled water filter	N
Water fountains	Y
Domestic hot water	Y
Hot water boiler	Y
VAC pump	Y
Main chilled water valves	Y
Main domestic water valves	Y
Back flow prevention	Y
FM 200	Y
Main line sewer system	Y
Cisterns	Y



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**BIM EXECUTION PLAN (BEP)**  
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**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 agent 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 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 Agent:	_____	_____
	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

<b>Project Name:</b>	Project Name
<b>Project Number:</b>	Project Number
<b>Project Address:</b>	Project Address
<b>Project Description:</b>	Project Description

### 3.2 – PROJECT GOALS AND OBJECTIVES

<b>Project Goal(s)</b>	<b>Achieved if</b>	<b>Project Timeframe</b>
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	Email	Phone
Name	title	company	email	p. 555-555-555 c.555-555-5555
Name	title	company	email	p. 555-555-555 c.555-555-5555
Name	title	company	email	p. 555-555-555 c.555-555-5555
Name	title	company	email	p. 555-555-555 c.555-555-5555
Name	title	company	email	p. 555-555-555 c.555-555-5555
Name	title	company	email	p. 555-555-555 c.555-555-5555
Name	title	company	email	p. 555-555-555 c.555-555-5555
Name	title	company	email	p. 555-555-555 c.555-555-5555
Name	title	company	email	p. 555-555-555 c.555-555-5555
Name	title	company	email	p. 555-555-555 c.555-555-5555
name	title	company	email	p. 555-555-555 c.555-555-5555



### 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 agent
Construction Documents Phase (Refer to schedule for early bid packages)	MM/DD/YEAR	MM/DD/YEAR	Owner, Design Professional, Consulting engineers, Contractor, Commissioning agent
Agency Review & Bidding Phase (Contractor)	MM/DD/YEAR	MM/DD/YEAR	Owner, Design Professional, Consulting engineers, Contractor, Commissioning agent
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 agent



#### 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 sub-consultants—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	Email	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



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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 professionals 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 team. Construction and Fabrication models by Construction team	Autodesk NavisWorks / (Revit TBD)



### 4.3 – BIM FILE NAMES

File Names for Models Should Be Formatted as:	
<i>DISCIPLINE-Project Number-Building Number.rvt (example: ARCH-20090001-BL001.rvt).</i>	
Design Professional	ARCH-****-*****.rvt (final model name)
Lab Furnishings Model	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 model)
Electrical Model	MEP-****-*****.rvt (note all MEP models will be contained in a single model)
Plumbing Model	MEP-****-*****.rvt (note all MEP models will be contained in a single model)
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 –
Construction –



#### **4.5 – MODEL ATTRIBUTE DATA / COBIE DATA PLANNING**

Specify model component COBie data. The 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 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/Structure/ 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 sub-consultants 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/Structure/ 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 Owners 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-Build 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.*



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**00 00 11**  
**AESTHETIC AUTHORITY**

**1. GENERAL**

- A. Aesthetic opinions and evaluations by a Design Professional are advisory only – and not binding on UGA. OUA reserves the right for final aesthetic judgment.





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**00 00 12**

**CLIENT & END USER INTERFACE**

For Projects Administered by OUA or FMD

**1. GENERAL**

- A. The Design Professional and Contractor shall take directions that modify the scope of Work only from the Owner's Representative. The person or entity that will occupy the Project is not authorized to modify the scope of Work. For Projects administered by OUA, the FMD is not authorized to modify the scope of Work. For Projects administered by FMD, the OUA is not authorized to modify the scope of Work.



**00 31 31.14**  
**SEISMIC INVESTIGATIONS INFORMATION**

*New Jan.  
16, 2015*

**1. GENERAL**

- A. The University of Georgia commissioned GeoHydro Engineers for a study entitled “UGA Central Campus Probabilistic Seismic Hazard Analysis” for the main campus in Athens-Clarke County. The entire report dated August 19, 2014 is available at [www.architects.uga.edu/standards](http://www.architects.uga.edu/standards) which also includes area maps that clarify the limits of the report.
- B. The results of the analysis provide site specific hazard parameters which can be utilized instead of the broad category parameters listed in the International Building Code and are as follows:

<b>PARAMETER</b>	<b>2012 IBC WITH GA AMENDMENTS</b>	<b>PROBABILISTIC HAZARD ANALYSIS</b>
<b>S<sub>s</sub> (%g)</b>	0.210	0.193
<b>S<sub>1</sub> (%g)</b>	0.094	0.080



**00 73 01**  
**SOLE SOURCE / SOLE BRAND**

New  
Jan. 16,  
2015

**1. GENERAL**

- A. Related sections:
  - i. 08 71 00 – Door Hardware
  - ii. 12 93 13 – Bicycle Racks
  - iii. 12 93 43.13 – Site Seating
  - iv. 23 09 23 – Building Automation and Temperature Control System (BAS)
  - v. 26 56 13 – Lighting Poles and Standards
  - vi. 27 00 00 – General Communications Requirements
  - vii. 27 41 00.01 – Audio-Visual Control System
  - viii. 28 13 00 – Access Control
  - ix. 28 31 00 – Fire Detection & Alarm
  - x. 32 14 16.13 – Brick Unit and Porous Paving – UngROUTed
  - xi. 32 39 13 – Manufactured Metal Bollards
  - xii. 32 84 00 – Planting Irrigation
- 2. **PRODUCTS** – These products have received sole brand or source approval and are on file with UGA Procurement:
  - A. Door Hardware Cylinder (see section 08 71 00)
    - i. Cylinders for locksets, latchsets, and deadbolts.
    - ii. Best Access Systems: 1-855-365-2407.
  - B. Door Hardware Exit Device (see section 08 71 00)
    - i. Von Duprin, 98, 35A Series
    - ii. Ingersoll Rand Security Technologies: 1-877-671-7011.
  - C. Door Hardware Power Operator (see section 08 71 00)
    - i. LCN 4642
    - ii. Ingersoll Rand Security Technologies: 1-877-671-7011.
  - D. Bicycle Racks (see section 12 93 13)
    - i. Ribbon Rack for 7 Bicycles; #RB07IG, length: 62.375”.
    - ii. AAA Ribbon Rack Company, Division of: Brandir International, Inc: 1-800-849-3488.
  - E. Exterior Bench (see section 12 93 43.13)
    - i. Renaissance Bench with Armrests and Back, Model Number: 2806-6, length: 6’
    - ii. Renaissance “Backless” Bench with Armrests, Model Number: 2802-6, length: 6’
    - iii. TimberForm by Columbia Cascade, Palmetto Recreation Equipment, LLC: 1-888-214-5253.
  - F. Building Automation and Temperature Control System (see section 23 09 23)
    - i. This is a sole source of equipment by Automated Logic Corporation: 770-429-3000 and procured through Automated Logic – Georgia: 770-421-3280. For renovation projects that utilize a different brand, the decision to change to Automated Logic Corporation or modify the existing system will be made on a case by case basis.
  - G. Exterior Lighting Pole (see section 26 56 13)
    - i. Amerlux Exterior Lighting Pittsburgh D93-12 Series, overall height: 11’-9”, Traditional style tapered and fluted case aluminum base (.259 min. wall) with



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- exterior mounting plate, 13" round base cover, black textured powdercoat finish.
- ii. Amerlux: 1-800-364-0098.
- H. Exterior Lighting Fixtures (see section 26 56 13)
- i. LUMEC L80 series street lighting fixture, custom without ball finial on top; black texture power coated paint finish. Metal Halide with RACE refractor optics; metal halide with SE optics; and LED with LES3 optics.
  - ii. Philips Lighting Products and Services. 1-855-486-2216
- I. Irrigation Water Management Controller (see section 32 84 00)
- i. ET2000E Enhanced Water Management Controller.
  - ii. Calsense: 1-800-572-8608.
- J. Inside Cabling Solution (see section 27 00 00)
- i. Includes all parts and components (and those by Siemon's Cable Partners). Including, but not limited to, patch cables, patch panels, cabling, telecommunication jacks, and face plates.
  - ii. Siemon Network Cabling Solutions: 1-860-945-4200.
- K. Outside Cabling Solution (see section 27 00 00)
- i. Includes all parts and components including but not limited to fiber optic patch cables, fiber optic cables, connectors, splice enclosures, rack mount cabinets, adaptor pants, and cable organizers.
  - ii. Corning Cable Systems: 1-828-901-5000.
- L. Audio-Visual Control System (see section 27 41 00.01)
- i. AMX by Harman
  - ii. AMX by Harman: 1-800-222-0193
- M. Fire Detection & Alarm (see section 28 31 00)
- i. Honeywell: 1-877-841-2840, Silent Knight, for new construction projects that are not facilities operated by UGA Housing. For renovation projects that utilize a different brand, the decision to change to Silent Knight or extend the existing system will be made on a case by case basis.
  - ii. Honeywell: 1-877-841-2840, Notifier for new construction projects that are facilities operated by UGA Housing. For renovation projects that utilize a different brand, the decision to change to Notifier or extend the existing system will be made on a case by case basis.
- N. Access Control System (see section 28 13 00)
- i. Andover Continuum System
  - ii. Andover Controls: 1-978-470-0555.
- O. Brick Pavers (see section 32 14 16.13)
- i. Pine Hall Brick Light Traffic Paving Brick; Pine Hall Brick Heavy Vehicular Traffic Paving Brick; Pine Hall Brick StormPave for Light Traffic; Pine Hall Brick StormPave for Heavy Vehicular Traffic; Pine Hall Brick Paving Brick with Truncated Domes. All brick pavers in color: Courtyard Red – Georgia Plant.
  - ii. Pine Hall Brick Company: 1-800-334-8689.
- P. Manufactured Metal Bollards (see section 32 39 13)
- i. Model #: VI-BO-14/30 – RB
  - ii. Visco, Inc: 1-800-341-1444.



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**MINORITY BUSINESS ENTERPRISE**

**1. GENERAL**

- A. It is the policy of the State of Georgia that minority business enterprises shall have the maximum opportunity to participate in the State purchasing process. Therefore, the State of Georgia encourages all minority business enterprises to compete for, win and receive contracts for goods, services, and construction. Also, the State encourages all companies to sub-contract portions of any State contract to minority business enterprises.
- i. The Small and Minority Business Contact person for the University of Georgia is:  
Ms. Annette M. Evans  
Procurement Officer  
University of Georgia, Procurement Office  
301 Business Services Building  
Athens, Georgia 30602  
706-542-2361 FAX: 706-542-7035
  - ii. Contractor may contact the Procurement Office or any buyer for assistance with the preparation of Contractor bid or proposal, or to answer questions about the bid and award process. Specific questions about the bid specifications should be directed to the buyer that issued the bid request rather than to Procurement Officer.
  - iii. The State of Georgia has a law which provides for an income tax credit on the State Tax Return to any company which subcontracts with a minority owned firm to furnish goods, property or services to the State of Georgia. Vendors should direct specific questions about this law to the Small and Minority Business Coordinators, 200 Piedmont Avenue, S.E., Atlanta, Georgia 30334, telephone 404-656-6315.