

Design Deliverables

Summary

A. Expectations for Design Deliverables:

1. The Design Team is obligated to advance and deliver the project with a professional manner and standard of care that meets the expectations for design drawings and specifications as defined in the Designer's Responsibilities.
2. The expectations defined in the deliverables below outline the minimum level of information, design, engineering and specifications required by the Design Team.

B. The following table lists the work items & expectations that are required during the indicated phases of drawing submittal and per industry standards. Should deliverable submittals be combined or eliminated as part of the agreed upon project delivery (as approved by the University), the Designer is to reconcile the expectations and development of the project to ensure that the thresholds for completeness and progress for the project align with the table below.

1. As part of the submittal of deliverables for each of the major phases of design listed below, the Designer is to submit this "Design Deliverables" document to the University's Project Manager. On the "Design Deliverables" document, the Designer is to indicate the status of each required item (a check mark is interpreted to mean that an item has been included in the deliverables).
3. The design professional is to address any item that is NOT included in the deliverables package.

1. Service: Programming

The Programming Document must follow the format of the UA Standard Project Definition Document.

Program Summary

1. 2.1 Space Needs Assessment
 - a. Existing space requirements
 - b. Projected expansion with justification
2. 2.2 Program Summary
 - a. List proposed square footage by floor, with major spaces identified.
 - b. Include efficiency factor with brief justification.
3. 2.3 Full Program

List areas by name, function, size, and by number of occupants or users. Break down program components by Assignable/Program, Non-assignable, Building Service Area, Circulation & Mechanical.

 - a. Can also identify important management and operational activities.
 - b. Should include some qualitative data for finishes, furnishings, lighting.
 - c. Must include analysis narratives of all MPE systems, ADA, and Life Safety and egress components that may be impacted by new design.
 - d. For specialized spaces with critical required engineering or space requirements, must include illustrative Room Data Sheets for each space.

- e. Verify compliance with UA standard space requirements.
4. Building and Project cost estimation
 - a. Include a funding plan showing approved, pending approval, and proposed funding actions and amounts by fiscal year to support the planned project.

2. Service: Predesign (10% SD)

The Schematic Design submittal is to align with the DCM Schematic Submittal and is to outline the schematic level scope & narrative of the project. Important at the Schematic Design level is the development of exterior computer-generated renderings, which require the Design Team to advance the project to a substantial level to ensure the exterior of the building is well defined for Board of Trustees Approval. The schematic submittal must include the following:

1. Site Plan: Pertinent information concerning topography and other factors influencing the design, such as existing buildings, property limits, existing utilities, etc.
2. Floor Plans: Showing room arrangement, descriptive room/area designations, and gross square footage of each floor. Plans should be at a scale normally not less than 1/16" = 1'- 0".
3. Elevations
4. Schematic Energy Concept: The form to be submitted is Appendix A of the Alabama Building Energy Conservation Code and ABC-4 Computer Program Manual.

3. Design Deliverables

1. Services (A) 10% Deliverables Schematic Phase as outlined in UA Design & Construction Guidelines.
2. Engineering System descriptions for Services A to include any required or suggested modifications bring the c. building up to code.
3. Services A Deliverables per Alabama DCM Manual.
4. Furniture plans based on UA provided furniture modules.
5. Final document to pattern UA Standard Project Definition Document.

**SERVICES (A) 10%
SCHEMATIC PHASE**

**SERVICES (B) 30%
DESIGN DEV. PHASE**

**SERVICES (C) 60%
CONST. DOC. PHASE
(SEE NOTE 1)**

**SERVICES (C) 90%
CONST. DOC. PHASE
(SEE NOTE 2 & 3 FOR 90% &
100% REQUIREMENTS)**

GENERAL DESCRIPTION

<ol style="list-style-type: none"> Scope of Work Narrative List of applicable building codes on drawing title sheet Review and Update Project Program document Schematic Drawings to include Site Plan, Floor Plan(s), and Exterior Elevation(s) as a minimum (see Note 5, Sheet 16) Engineering Systems Description Energy Use & Conservation Analysis Project Schedule Estimate of Cost Minutes of Meetings Review drawings to governing agencies, as required 	<ol style="list-style-type: none"> Building Code Review & Describe means of code compliance Preliminary drawings to include outline specifications, fire protection/life safety plan, site plan, floor plan(s), elevations, typical wall section(s), and building section(s) (see note 5, sheet 16) Equipment Lists Engineering Systems Analysis Preliminary Energy Use & Conservation Analysis Track & Estimate changes in scope of work Updated Project Schedule Estimate of Cost Minutes of Meetings Annotated comments of services "A" review Review drawings to governing agencies, as required 	<ol style="list-style-type: none"> Documentation on drawings as required by building codes Contract Documents (see note 5, sheet 16) Updated Project Schedule Estimate of Cost Identification of construction phasing plan, including temporary requirements during each phase Minutes of Meetings Annotated comments of services "B" review Review Drawings to Governing Agencies, as required. Submit complete set of drawings (electronically via SharePoint web link) to the City of Tuscaloosa Fire & Rescue Service. Reference Note #9 for procedure. 	<ol style="list-style-type: none"> Documentation on drawings as required by building codes Final Contract Documents (see note 5, sheet 16) Updated Project Schedule Estimate of Cost Updated construction phasing plan, including temporary requirements during each phase Minutes of Meetings Annotated comments of 60% review Annotated comments of 90% review for 100% submittal Annotated comments of 100% review with bid document submittal Review Drawings to Governing Agencies, as required. Submit pdf drawings (electronically) to the Tuscaloosa Water & Sewer Dept – Linear Assets Division, reference Note #9 for procedure. Submit Final complete set of drawings (electronically via SharePoint web link) to the City of Tuscaloosa Fire & Rescue Service. Reference Note #9 for procedure.
--	---	--	---

SPECIFICATIONS

<ol style="list-style-type: none"> System & material narrative description <u>Note:</u> Site survey and soil tests indicating all existing conditions will be provided by Owner 	<ol style="list-style-type: none"> Outline specification with same section numbering as final <u>Note:</u> All construction testing will be provided by Owner 	<ol style="list-style-type: none"> Complete specification including draft front end documents <u>Note:</u> All construction testing will be provided by Owner 	<ol style="list-style-type: none"> Final specification including front end documents (see note 6, sheet 16) <u>Note:</u> All construction testing will be provided by Owner
--	--	--	--

**SERVICES (A) 10%
SCHEMATIC PHASE**

**SERVICES (B) 30%
DESIGN DEV. PHASE**

**SERVICES (C) 60%
CONST. DOC. PHASE
(SEE NOTE 1)**

**SERVICES (C) 90%
CONST. DOC. PHASE
(SEE NOTE 2 & 3 FOR 90% &
100% REQUIREMENTS)**

SITE

1. Existing conditions
2. Demolition identified
3. Building outline(s)
4. Site entrance
5. Roads & driveways
6. Parking locations
7. Loading dock location
8. Waste collection locations
9. Walkway locations
10. Stairway locations
11. Future expansion
12. Utility requirements
13. Site utilities
14. Clearly show "Build-to" line (Refer to UA Campus Design Guide portion of UA Campus Master Plan)

1. General dimensions & elevations
2. Site demolition plan
3. Parking plan & elevations
4. Site drainage
5. Lighting plan
6. Concept details of fixtures & equipment
7. Utility plans, elevations & details
8. Plan to address existing hazardous materials, if applicable
9. Dewatering plan
10. Site demolition plans
11. Soil retention work, if needed

1. Extent of construction area and work
2. Site demolition plan
3. Traffic plan if existing roads/walks are impacted
4. Site development and phasing plans
5. Construction site access
6. Staging area
7. Soil erosion control plan for both construction and occupancy periods
8. Construction signage
9. Pipe sizes
10. Connection details
11. Protection requirements for construction, plantings that remain

1. Extent of construction area and work
2. Site demolition plan
3. Traffic plan if existing roads/walks are impacted
4. Site development and phasing plans
5. Construction site access
6. Staging area
7. Soil erosion control plan for both construction and occupancy periods
8. Construction signage
9. Pipe sizes
10. Connection details
11. Protection requirements for construction, plantings that remain

LANDSCAPING

1. Existing conditions

1. Planting plan
2. Irrigation plan
3. Planting legend
4. Irrigation legend

1. Existing tree protection
2. Soil preparation & planting specifications
3. Guying diagrams
4. Piping diagrams
5. Pipe sizes
6. Landscape details

1. Existing tree protection
2. Soil preparation & planting specifications
3. Guying diagrams
4. Piping diagrams
5. Pipe sizes
6. Landscape details

**SERVICES (A) 10%
SCHEMATIC PHASE**

**SERVICES (B) 30%
DESIGN DEV. PHASE**

**SERVICES (C) 60%
CONST. DOC. PHASE
(SEE NOTE 1)**

**SERVICES (C) 90%
CONST. DOC. PHASE
(SEE NOTE 2 & 3 FOR 90% &
100% REQUIREMENTS)**

STRUCTURAL

1. Structural scheme
2. Written description

1. Foundation plan
2. Typical floor framing plan
3. Framing plan(s) at unique features
4. Main member sizing
5. Structural sections

1. Definition of control joints
2. Beam, column, & slab schedules
3. Mechanical & electrical concrete pads
4. Foundation details
5. Structural details
6. Structural notes

1. Definition of control joints
2. Beam, column, & slab schedules
3. Mechanical & electrical concrete pads
4. Foundation details
5. Structural details
6. Structural notes
7. Final calculations, if requested

ELEVATORS

1. Elevator location(s)
2. Equipment room location(s)

1. Equipment description

1. Dimensioned plans
2. Enlarged plans & details
3. Sections & details of pit & hydraulic cylinder, if applicable
4. Description of shaft sump pit(s)
5. Elevator car & equipment support details
6. Description of controls & fixtures
7. Door & frame details
8. Interior details including lighting
9. Elevator shaft section

1. Dimensioned plans
2. Enlarged plans & details
3. Sections & details of pit & hydraulic cylinder, if applicable
4. Description of shaft sump pit(s)
5. Elevator car & equipment support details
6. Description of controls & fixtures
7. Door & frame details
8. Interior details including lighting
9. Elevator shaft section

**SERVICES (A) 10%
SCHEMATIC PHASE**

**SERVICES (B) 30%
DESIGN DEV. PHASE**

**SERVICES (C) 60%
CONST. DOC. PHASE
(SEE NOTE 1)**

**SERVICES (C) 90%
CONST. DOC. PHASE
(SEE NOTE 2 & 3 FOR 90% &
100% REQUIREMENTS)**

BUILDING EXTERIOR ENVELOPE

1. Typical elevations (1/8" scale minimum)
2. Fenestration designations
3. Energy code requirements

1. All building elevations w/ dimensional heights
2. Typical wall sections
3. Overall building cross sections (1/8" scale minimum)
4. Roof layout (1/8" scale minimum)

1. Roof-mounted equipment
2. Roof details
3. Exterior details
4. Flashing details
5. Control joint definition & details
6. Parapet & coping details
7. Roof & drainage plan
8. Exterior door details
9. Typical window details
10. Details of unique features
11. Expansion joint locations
12. Large scale building cross-sections

1. Roof-mounted equipment
2. Roof details
3. Exterior details
4. Flashing details
5. Control joint definition & details
6. Parapet & coping details
7. Roof & drainage plan
8. Exterior door details
9. Typical window details
10. Details of unique features
11. Expansion joint locations
12. Large scale building cross-sections

BUILDING INTERIOR

1. Typical floor plans (1/16" minimum scale) with legends
2. Demolition plan(s), if applicable
3. All room numbers
4. Area use identification & area in square ft.
5. Mechanical, electrical, & other service closets & rooms
6. Life safety plan
7. Area tabulations compared to program requirements
8. Show flexibility for expansion & alterations
9. Preliminary layout of major spaces w/ fixed equipment

1. All floor plans (1/16" minimum scale) with key plans
2. Demolition plan(s), if applicable
3. Wall typed, fire ratings, smoke control zones
4. Plan to address existing hazardous materials, if applicable
5. Fixed seating
6. Defined seating, serving, & kitchen facilities
7. Equipment & furniture layouts
8. Important interior elevations
9. Preliminary finish schedule
10. Preliminary door schedule

N/A

N/A

**SERVICES (A) 10%
SCHEMATIC PHASE**

**SERVICES (B) 30%
DESIGN DEV. PHASE**

**SERVICES (C) 60%
CONST. DOC. PHASE
(SEE NOTE 1)**

**SERVICES (C) 90%
CONST. DOC. PHASE
(SEE NOTE 2 & 3 FOR 90% &
100% REQUIREMENTS)**

HVAC

1. Identify all systems
2. Exterior equipment locations
3. Special occupancy zones
4. Alabama State Energy Conservation Code Requirements

1. Updated design criteria for each mechanical system
2. One-line diagrams & other materials as required to describe the fundamental design concept for all mechanical systems
3. Indication of the amount of redundancy for all major pieces of mechanical equipment, e.g., “two pumps 100% capacity each”
4. Overall building air flow diagram indicating air handlers, exhaust fans, duct risers, and duct mains
5. Plans indicating shaft, chase, recess requirements
6. Duct layout for typical spaces
7. Equipment schedules (major equipment)
8. Equipment locations (w/enlarged mechanical plan(s))
9. Control diagrams (concept form) for all mechanical & plumbing systems
10. Description of major sequences of operation
11. Central automation operation
12. M/E smoke control scheme
13. Preliminary calculations
14. Air intake & discharge locations
15. Mechanical legend
16. Efficiency of HVAC systems
17. Ventilation requirements ASHRAE 62-2004

1. One-line flow diagrams for all mechanical systems; chilled water, heating hot water, etc.
2. Floor plans w/ all components and required service access to areas drawn to actual scale. On the plans, indicate duct sizes and airflow quantities relative to each room, including CFM in and out of all doors. Indicate location of control panels.
3. Valves and volume control boxes (note that each is to be identified by a unique number assigned by the Engineer)
4. Provide a schedule that indicates the control sequence that applies to each room (room #, room descriptor, control sequence #)
5. Detailed floor plans of mechanical rooms w/ all components and required service areas drawn to actual scale.
6. Cross sections through mechanical rooms and areas where there are installation/coordination issues (tight space, zoning of utilities). Indicate required service access areas
7. In common mechanical space, indication of space zoning by system
8. Connection to fire alarm and campus control systems
9. Equipment details, including structural support requirements
10. Penetration details and installation details
11. Duct construction schedule (on the drawings), indicating materials and pressure class for each duct system
12. Detailed controls drawings, including clear differentiation of trade responsibility for control, fire, and control power wiring
13. Detailed sequences of operation
14. Design calculations actual scale

1. One-line flow diagrams for all mechanical systems; chilled water, heating hot water, etc.
2. Floor plans w/ all components and required service access to areas drawn to actual scale. On the plans, indicate duct sizes and airflow quantities relative to each room, including CFM in and out of all doors. Indicate location of control panels.
3. Valves and volume control boxes (note that each is to be identified by a unique number assigned by the Engineer)
4. Provide a schedule that indicates the control sequence that applies to each room (room #, room descriptor, control sequence #)
5. Detailed floor plans of mechanical rooms w/ all components and required service areas drawn to actual scale.
6. Cross sections through mechanical rooms and areas where there are installation/coordination issues (tight space, zoning of utilities). Indicate required service access areas
7. In common mechanical space, indication of space zoning by system
8. Connection to fire alarm and campus control systems
9. Equipment details, including structural support requirements
10. Penetration details and installation details
11. Duct construction schedule (on the drawings), indicating materials and pressure class for each duct system
12. Detailed controls drawings, including clear differentiation of trade responsibility for control, fire, and control power wiring
13. Detailed sequences of operation
14. Design calculations actual scale

SERVICES (A) 10%
SCHEMATIC PHASE

SERVICES (B) 30%
DESIGN DEV. PHASE

SERVICES (C) 60%
CONST. DOC. PHASE
(SEE NOTE 1)

SERVICES (C) 90%
CONST. DOC. PHASE
(SEE NOTE 2 & 3 FOR 90% & 100% REQUIREMENTS)

18. Verify ASHRAE Energy Standard 90-2004 is met

**SERVICES (A) 10%
SCHEMATIC PHASE**

**SERVICES (B) 30%
DESIGN DEV. PHASE**

**SERVICES (C) 60%
CONST. DOC. PHASE
(SEE NOTE 1)**

**SERVICES (C) 90%
CONST. DOC. PHASE
(SEE NOTE 2 & 3 FOR 90% &
100% REQUIREMENTS)**

PLUMBING & PIPING

- 1. Main water supply
- 2. Restroom location(s)
- 3. Location of water & gas meter

- 1. Updated design criteria for each plumbing system (including set (continued) points, water quality levels, etc.)
- 2. One-line diagrams, etc. that describe the fundamental design concept for all plumbing systems
- 3. Piping plans (domestic & process) with indication of required service access areas
- 4. Water header diagram
- 5. Central cooling water header diagram
- 6. Steam header diagram
- 7. Steam metering concept

- 1. Water riser diagram, including assumed fixture counts per floor construction (continued)
- 2. Waste & vent riser diagrams including assumed fixture counts per floor connection
- 3. Radiation riser diagram
- 4. Central cooling water riser diagram
- 5. Chilled water riser diagram
- 6. Riser diagram of other plumbing systems, such as natural gas & pure water
- 7. Foundation drains
- 8. Pipe sizes
- 9. Typical plumbing details, including structural support requirements
- 10. Water heating piping detail
- 11. Coil piping detail
- 12. Convector piping detail
- 13. Penetration details
- 14. Design calculations
- 15. Location & size of water & gas service meter

- 1. Water riser diagram, including assumed fixture counts per floor construction (continued)
- 2. Waste & vent riser diagrams including assumed fixture counts per floor connection
- 3. Radiation riser diagram
- 4. Central cooling water riser diagram
- 5. Chilled water riser diagram
- 6. Riser diagram of other plumbing systems, such as natural gas & pure water
- 7. Foundation drains
- 8. Pipe sizes
- 9. Typical plumbing details, including structural support requirements
- 10. Water heating piping detail
- 11. Coil piping detail
- 12. Convector piping detail
- 13. Penetration details
- 14. Design calculations
- 15. Location & size of water & gas service meter

FIRE PROTECTION (MECHANICAL)

- 1. Documenting adequacy of utility
- 2. Connection to utility
- 3. Optional F.P. systems

- 1. Riser diagram
- 2. One-line layout
- 3. Fire pump sizing calculations

N/A

N/A

**SERVICES (A) 10%
SCHEMATIC PHASE**

**SERVICES (B) 30%
DESIGN DEV. PHASE**

**SERVICES (C) 60%
CONST. DOC. PHASE
(SEE NOTE 1)**

**SERVICES (C) 90%
CONST. DOC. PHASE
(SEE NOTE 2 & 3 FOR 90% &
100% REQUIREMENTS)**

LIGHTING

N/A

1. Typical lighting plans
2. Fixture/switching layout
3. Fixture types & schedule
4. General light fixture descriptions
5. Light level calculations
6. Energy code requirements

1. Lighting plans of all areas
2. Control diagrams
3. Installation details, including structural support requirements
4. Design calculations with cut sheets of all light fixtures

1. Lighting plans of all areas
2. Control diagrams
3. Installation details, including structural support requirements
4. Design calculations

ELECTRICAL POWER

1. Service location for site power and communication equipment

1. Electrical equipment location
2. Receptacle location

1. Load summary
2. Panel schedules
3. Details of power service to building
4. Power distribution plans that indicate the location of all receptacles
5. Plans & details of emergency power generation system & controls
6. Connections to other building systems, including fire alarm & HVAC
7. Details of special terminal devices
8. MCC details
9. Penetration details
10. Design calculations
11. Normal power riser diagram with circuit breaker & fuse sizes
12. Emergency power riser diagram with circuit breaker & fuse sizes

1. Load summary
2. Panel schedules
3. Details of power service to building
4. Power distribution plans that indicate the location of all receptacles
5. Plans & details of emergency power generation system & controls
6. Connections to other building systems, including fire alarm & HVAC
7. Details of special terminal devices
8. MCC details
9. Penetration details
10. Design calculations
11. Normal power riser diagram with circuit breaker & fuse sizes
12. Emergency power riser diagram with circuit breaker & fuse sizes

<p>SERVICES (A) 10% SCHEMATIC PHASE</p>	<p>SERVICES (B) 30% DESIGN DEV. PHASE</p>	<p>SERVICES (C) 60% CONST. DOC. PHASE <i>(SEE NOTE 1)</i></p>	<p>SERVICES (C) 90% CONST. DOC. PHASE <i>(SEE NOTE 2 & 3 FOR 90% & 100% REQUIREMENTS)</i></p>
SECURITY SYSTEMS			
<p>N/A</p>	<ol style="list-style-type: none"> General security/CCTV system description General description of card access system 	<ol style="list-style-type: none"> Riser diagrams Equipment closet layout & elevations Concealed & exposed raceways Installation details Security system riser diagrams Security equipment locations Card access equipment closet layout & elevations 	<ol style="list-style-type: none"> Riser diagrams Equipment closet layout & elevations Concealed & exposed raceways Installation details Security system riser diagrams Security equipment locations Card access equipment closet layout & elevations
INFORMATION TECHNOLOGY (OIT)			
<p>N/A</p>	<p>N/A</p>	<ol style="list-style-type: none"> Floor plan(s) in CAD for wireless access point locations. (UA PM to send plans to user.) 	<p>N/A</p>
OTHER GRAPHICS			
<ol style="list-style-type: none"> Rendering(s), models, and information regarding line-of-sight impact, scale and massing of new construction as it relates to existing buildings in the immediate area of the new construction 	<ol style="list-style-type: none"> Rendering(s), models, necessary for Board of Trustees approval, if applicable and information regarding line-of-sight impact, scale and massing of new construction as it relates to existing buildings in the immediate area of the new construction 	<p>N/A</p>	<p>N/A</p>
COST			
<ol style="list-style-type: none"> Preliminary cost estimate (System-by-System applicable) 	<ol style="list-style-type: none"> Updated cost estimate by materials 	<ol style="list-style-type: none"> Updated cost estimate by materials 	<ol style="list-style-type: none"> Updated cost estimate by materials

C. Notes:

1. Each of the requested documents noted in this service shall contain, at a minimum, 60% of the information required for each document.
2. Each of the requested documents noted in this service shall contain, at a minimum, 90% of the information required for each document.
3. 100% (Final Review) shall incorporate all revisions of the 90% phase review.
4. All moveable furnishings and artwork are considered independent of the architectural design project.
5. All plan drawings, including enlarged plans and plan details, shall include north arrows.
6. All text shall be 1/8" minimum height for drawings on 24" x 36" sheet size or larger.
7. Provide to the Owner, the Project Manual bound in a heavy duty, 30 ring vinyl covered binder, white color, when the bid documents are submitted.
8. All electronic drawings shall comply with the requirements contained in Section I CAD Requirements of the Design Guidelines.
9. Required Milestone Municipal Reviews:
 - a. City of Tuscaloosa Fire & Rescue Submittals
 - 1) 60% Review – The AOR shall provide Tuscaloosa Fire Rescue with a SharePoint web link for the 60% set of PDF drawings. The SharePoint web link shall be sent by email to fireprevention@tuscaloosa.com with attention to Fire Marshal Patrick Stines. The subject line of the email shall read "UA Project Name – UA Project# - 60% Review".
 - 2) Final Submittal (with DCM Comments) – Following the DCM final plan submittal review, The AOR shall address and correct all DCM comments. The AOR shall then provide Tuscaloosa Fire Rescue with a SharePoint web link where the corrected drawings and responses to the DCM's review comments can be downloaded. The SharePoint web link shall be sent by email to fireprevention@tuscaloosa.com with attention to Fire Marshal Patrick Stines. The subject line of the email shall read "UA Project Name – UA Project# - Conformance Documents with DCM Comments".
 - b. Tuscaloosa Water & Sewer Dept.*
 - 1) 90% Review - Provide the Linear Assets Division with the following pdf documents by email to greasetrapreviews@tuscaloosa.com on projects that involve 1) the installation of a new grease trap, 2) modification of an existing grease trap and/or 3) a change in commercial kitchen output waste. Required pdf documents include the following: civil/site utility plan, floor plans of commercial dining areas showing seating capacity, floor plans of commercial dining areas showing cooking lineups and plans showing locations, capacities, and installation details of grease traps. The subject line of the email shall read: "UA Project Name – UA Project # - Grease Trap Review".

* Currently under review

- End -

