

Owner's Project Requirements (OPR)

UNIVERSITY OF ARKANSAS FOR MEDICAL SCIENCES
CAMPUS OPERATIONS

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1. INTRODUCTION

This Owner's Project Requirements (OPR) document is an overview of UAMS' goals and measurable performance criteria for construction projects. The OPR shall be used in conjunction with the *UAMS Technical Design Standards*. Our mission at UAMS is to improve the health, health care and well-being of Arkansans and of others in the region, nation and the world by:

- Educating current and future health professionals and the public
- Providing high quality, innovative, patient- and family-centered health care and also providing specialty expertise not routinely available in community settings
- Advancing knowledge in areas of human health and disease and translating and accelerating discoveries into health improvements

To help achieve this mission, UAMS' in-house *Planning, Design, Construction & Operations (PDCO)* team members seek to meet the needs of our customers in health professional education, patient services and research. PDCO team members work with building occupants, *Consulting Design Teams* and *Contractors* to build environmentally healthy facilities on budget and on time. UAMS requires the utilization of LEAN methods in the Planning and Construction of all projects.

This document is intended to be used as a template at the beginning of each project prior to design commencing. The *Consulting Design Teams* shall work with UAMS to identify key project elements, objectives and requirements. The purpose of the *OPR* is to develop information early in the project to focus the work effort and define parameters that will be used to evaluate the project's effectiveness.

2. PROJECT DESCRIPTION

The OPR contains a complete description of the project. The project description shall indicate the total building floor area, gross department floor area (GDSF), number of stories, project type (new construction, addition, renovation, etc.), and location. At a project's inception and prior to the hiring of a *Consulting Design Team*, the Project Planner/Manager and end-users document scope of work and key project elements in the *Project Charter*.

3. PROJECT DELIVERY METHOD

The OPR indicates the selected project delivery method.

4. PROJECT COST

At the beginning of each project, UAMS' in-house team establishes a Preliminary Estimate. As the project progresses and more information is obtained, the *Consulting Design Team* and/or *Contractor* refine this estimate and develop and manage a "real time" Budget Model for the Cost of the Work. This real time budget model is to be used to help evaluate design and scope decisions. As defined in the contract, the *Consulting Design Team* shall notify the Project Planner/Manager of potential budget overages and offer alternatives to correct the Budget Model.

5. PROJECT SCHEDULE

At the beginning of each project, UAMS' in-house team establishes a Preliminary Schedule. As the project progresses and more information is obtained, the *Consulting Design Team* and/or *Contractor* refine this schedule. The OPR establishes the target completion date for the project. If the project involves multiple phases, the OPR establishes the target completion date for each phase. At UAMS, project design schedules are often driven by regulatory compliance and availability of end-user staff to participate in the design process and LEAN event.

6. LEAN

UAMS uses LEAN methods for the design and construction of its projects to reduce waste and eliminate inefficiencies. LEAN defines the objectives and goals the project needs to meet to be successful. The LEAN event occurs shortly after funding for the project is approved and it is expected that the *Consulting Design Teams* participate. The LEAN event may last anywhere from a couple of hours to a few days. As of July 1, 2018 projects shall use the AGC Lean Construction Processes as appropriate. All consultants and contractors shall have current AGC certificate.

7. SPACE/SITE PROGRAM

A space program for each project is developed to identify projected space needs. UAMS will provide the Consulting Design Team with specific room numbers for each space. Refer to **Appendix A**. In each design phase, the *Consulting Design Team* shall re-evaluate the space program to identify waste or scope creep. Provide appropriate access, parking spaces, bike racks, etc. based on building function and utilization. There may be cases where minimum standards are adjusted based on UAMS utilization.

8. FUTURE GROWTH AND PROGRAM FLEXIBILITY

The OPR indicates which services and departments are most likely to expand over time. The OPR also indicates the minimum amount of equipment, system, and infrastructure spare capacity needed to accommodate future growth.

The *Consulting Design Team* shall indicate which building features facilitate flexibility for excess capacity and expansion zones, as well as describe the minimum amount of equipment, systems, and infrastructure needed to accommodate future growth. Descriptions shall include, but not limited to, the following:

- Site expansion areas
- Utilities capacity
- Fire Life Safety systems
- Architectural features
- Structural systems (moment frame, bay size, etc.)
- Mechanical systems (excess capacity, modular designs, etc.)
- Electrical system (bus sizing, excess panel capacity, etc.)

9. LONGEVITY

General life expectancies of a facility are listed below:

- Health care facility: 40 - 50 years
- Business occupancies: 30 - 40 year

Individual building components minimum life expectancies are listed below:

- Interior finishes: 10 years
- Paint: 5 years
- Roof and mechanical systems: 20 years
- Electrical systems: 30 years
- Exterior fenestration (windows, wall cladding, etc.): 30 years
- Paved surfaces: 30 years
- IT infrastructure: 10 years

10. SUSTAINABILITY

All projects shall use the current *United States Green Building Council (USGBC)* LEED checklist as a method to document the project's sustainability. It is not UAMS' objective for buildings to obtain certification; however, an updated LEED checklist (and potential number of points) shall be submitted to the Project Planner/Manager during design phase.

- Appropriateness to the project
- Value of environmental impact
- Budget impact
- Return on investment

11. APPEARANCE

All UAMS facilities shall share a global brand image with customized branding specific to each program and community. Refer to **Appendix B**. Common global elements/materials include: canopies, vestibules, exterior primary graphic sign, interior signage and verbiage, brick, metal siding, precast concrete, cement board siding and aluminum storefront/curtainwall. Community elements/materials include: facility siting, landscaping and interior color palettes.

12. INTERIOR FINISHES

Refer to *UAMS Technical Design Standards* and **Appendix C** for interior finishes that shall be used based on room type. Select proper flooring selection based on usability factors, building clientele, foot traffic, ease of cleaning and safety (slip resistant and nonfinished floor).

13. QUALITY OF BUILDING MATERIALS AND FINISHES

The OPR establishes the desired quality of building materials and finishes. The OPR addresses longevity, cleaning requirements, supplier locations, and minimum inventories.

14. ARCHITECTURAL AND STRUCTURAL

Clinical Imaging shall be placed on the ground floor for vibration control.

All mechanical equipment rooms shall have concrete floor and curb.

15. OUTDOOR AND INDOOR DESIGN CONDITIONS

The design should take into consideration peak requirements for the following: 1) cooling airflow, 2) cooling refrigeration - tons, 3) chilled water - GPM, 4) heating and 5) humidification. The indoor design conditions should comply with the minimum standards of *ASH Standard 170* and FGI Guidelines *Table 7.1 Design Parameters* for temperature and humidity. Occupancy controls and schedules are required.

Do not design for live plants, waterfalls, or other unnecessary sources of microbiological contaminants where compromised patients reside. Refer to **Appendix D** for a list of prohibited indoor or outdoor plants. Ground covering shall be native to Arkansas.

For new construction, UAMS requires a high performance exterior envelope (design as rainscreen wall system) appropriate to our climate and geography. The Consulting Design Teams shall specifically address the following:

- Water: The building shall have a water barrier to resist water penetration.
- Air: The building enclosure shall have a continuous air barrier system with all joints sealed to control air leakage into/out of the conditioned space to resist excessive air infiltration.
- Condensation: Thermal protection shall ensure the dew point of the wall/roof system be located to prevent condensation within the building cavity to resist condensation on interior surfaces

16. SECURITY

The OPR identifies security requirements for the health care facility. Typical security requirements address building access, secure areas, cameras, emergency phones, and security stations.

17. INFORMATION TECHNOLOGY (I.T.)

The OPR identifies tele/data and I.T. needs. Project Champion identified in the *Project Charter* is responsible for submitting and coordinating with I.T. for the Service Demand request, examples include, workstations, phones and EPIC.

18. ENVIRONMENTAL SERVICES

In consideration that transmission of many healthcare acquired pathogens (HAPs) is related to contamination of near-patient surfaces and equipment, it is important to optimize the ease to thoroughly and regularly clean high touch surfaces. A terminal clean should be performed at the project's completion. Provide proper space and storage planning in a centralized location within the building for supplies and equipment. Walls of janitorial closets shall include shelving stationed above sink / basin.

19. ASHE CERTIFICATES AND CERTIFICATIONS

UAMS requires the following ASHE certification for project team members working in healthcare and ambulatory occupancies:

- Certified Healthcare Constructor (CHC) Certification: Construction Company
- Healthcare Construction Certificate (HCC): Construction Superintendent, Construction Project Manager, (if required include primary sub-contractors)

20. INFECTION RATES

Requirements or guidelines for operational infection control design features shall be identified by the user.

21. COMMISSIONING TOOLS

The OPR identifies commissioning tools needed by operations and maintenance staff. These tools typically include an open protocol interface to the energy management system and major equipment control panels, an automatic data archiving system, and a query-and-response program.

22. THERMAL COMFORT

The OPR identifies thermal comfort goals. Compliance with *ANSI/ASHRAE Standard 55: Thermal Environment Conditions for Human Occupancy* is a typical thermal comfort goal.

23. ACOUSTICS

The OPR indicates the acoustic requirements for the project and shall comply with the minimum standards of the FGI Guidelines sound transmission class (STC).

24. SYSTEM RELIABILITY

The OPR identifies specific requirements for equipment and system reliability. The reliability requirements for a healthcare facility may include those listed below:

- N +1 reliability for emergency power, cooling, and heating systems
- Multiple fans in air handling units serving critical areas
- 100% generator capacity (entire facility can be served from the generators)
- Paralleling switchgear with load shedding capability
- On-site Fuel Storage
- Dual fuel capability

25. ENERGY EFFICIENCY

The OPR establishes the project energy efficiency goal, typically expressed as a target Energy Star rating. For new facilities, the recommended Energy Star target rating is 75 (the minimum required to earn the Energy Star label). For renovation and building addition projects, the recommended Energy Star target rating should be a reasonable increase from the current and baseline energy ratings for the existing facility. If applicable, the building must comply with the *State of Arkansas Act 1494*. If the actual rating does not meet or exceed the target rating, the project team shall identify the cause of the disparity and implement corrective action. Restroom automation options shall reduce water, electricity, soap, and paper products with ultra-low flow sensors.

26. PREFERRED MANUFACTURERS

The OPR indicates preferred manufacturers for equipment and systems, including water chillers, cooling towers, air-handling units, boilers, pumps, generators, switchgears, controls system, and fire alarm system.

27. MEASUREMENT AND VERIFICATION OF ENERGY EFFICIENCY

The OPR identifies the requirements for measuring and verifying actual building energy performance using the Energy Star rating system. If the actual Energy Star rating does not meet or exceed the target rating, the project team should work to identify the cause of the disparity and implement corrective action. The HFCxA will define team member roles in the M&V process and document. Corrective action and compliance by the A/E design team and HFCxA is considered part of the project warranty.

28. BUILDING PRESSURE TESTING

The OPR indicates requirements for building pressure testing to confirm the building envelope is properly sealed.

29. ROOM PRESSURE TESTING

The OPR indicates requirements per FGI Guidelines for room pressure testing to confirm rooms required to have either positive or negative pressure relationships are properly sealed. Monitor these rooms in accordance with ASHRAE 170 unless stated by Owner.

30. FIRE AND SMOKE DAMPER TESTING

To reduce costs and minimize disruption, the initial damper inspection and testing should occur immediately prior to occupancy.

31. WARRANTY PERIOD

Refer *UAMS Technical Design Standards* for specific warranties. Indicate requirements for extended warranties on major equipment such as water chillers, cooling towers, boilers, generators, and switchgear.

32. GENERAL MAINTENANCE AND TRAINING

The OPR identifies specific training needed for the facility's operations and maintenance staff. The training section should identify the systems and equipment for which training is needed and the preferred training format (classroom, field, etc.). Design shall provide adequate clearances and access for servicing equipment.

33. MAINTENANCE STAFFING

The OPR identifies the anticipated maintenance staffing requirement in FTEs or in square feet of floor space per FTE (typically varies from 25,000 to 40,000 SF per FTE for health care facilities). The maintenance staffing requirement is typically determined using the ASHE benchmarking tool.

34. MAINTENANCE COSTS

The OPR identifies anticipated maintenance costs for the health care facility, including staffing, service contracts, tools, materials, utilities, and education. The maintenance cost goal is typically determined using the ASHE benchmarking tool.

35. OPERATIONS AND MAINTENANCE DASHBOARDS

The OPR identifies the operations and maintenance dashboards to be developed by the project team. These typically include dashboards for building energy demands and costs, major systems, major equipment and air terminals.

All alarms shall be wired to the UAMS Campus Operations Call Center

36. BUILDING MAINTENANCE PROGRAM

Ensure that all equipment is numbered and labeled in a manner consistent with facility standards. For renovation and addition projects, the equipment numbers shall begin with the next available number (not start over again at 1). Recycling accommodations and biohazard needs shall be considered.

UAMS shall receive an electronic archive of all information required to operate and maintain the facility. E&O staff shall generate work orders for recommended maintenance procedures and frequency, along with providing regular calibration of temperature, pressure, and other sensors critical to efficient system performance.

37. UTILITY MANAGEMENT PLAN

The OPR identifies specific requirements for the Utility Management Plan (UMP). The UMP is required by the Joint Commission's 2010 Comprehensive Accreditation Manual for Hospitals and should include the following sections:

- Written inventories of the operating components of utility systems considered critical to patient care based on risks of infection and occupant needs
- Written descriptions of inspection, testing, and maintenance activities for operating components of critical utility systems
- Detailed diagrams of utility distribution systems
- Written procedures for responding to utility system disruptions
- Written procedures for shutting off malfunctioning utility systems and notifying staff in affected areas
- Written procedures for obtaining emergency repair services
- Written identification of alternative means of providing electricity, water, and fuel
- Written identification of alternative means for providing medical air, medical vacuum, oxygen, nitrous oxide, nitrogen, and other medical gases
- Written identification of alternative means of providing other critical utilities, such as vertical transport, steam for sterilization, heating, cooling, and ventilation
- Written procedures for responding to events that curtail or disrupt utility service to the health care facility for up to 96 hours

38. INFECTION CONTROL RISK ASSESSMENT (ICRA)

The *Infection Control Risk Assessment* (ICRA) form is used to determine the potential risk of causing the spread of infection during construction, renovation, and maintenance activities. Based on the results of the assessment, control measures are put into place that reduce this risk. All projects undergo review and approval by UAMS' in-house ICRA Committee. This committee determines the classification of the constructions by considering the type of construction activity and the infection control patient risk group. Refer to *Owner's General Requirements Division 01*.

39. INTERIM LIFE SAFETY MEASURES

The OPR indicates the life safety features that will be affected by the project and the interim life safety measures (ILSMs) to be employed to mitigate safety risks.

40. UTILITY AND EQUIPMENT SHUTDOWNS

UAMS wants to minimize utility and equipment shutdowns. However, when a shutdown is necessary and cannot be avoided, appropriate notice to all involved shall be provided, refer to *Owner's General Requirements Division 01*.

41. REGULATORY COMPLIANCE

The Consulting Design Team shall provide a list of applicable codes pertaining to the project on the cover sheet of the drawing set and ensure approval by the Arkansas Health Department. Additional review by the Arkansas State Legislature and University of Arkansas Board of Trustees may be required depending upon project's cost.

42. FUNCTIONAL PROGRAM

For healthcare related projects, the *Arkansas Department of Health (ADH)* requires a *Functional Program* to be completed per *Rules and Regulations for Hospitals and Related Institutions in Arkansas* (<http://www.healthy.arkansas.gov/aboutADH/RulesRegs/Hospitals.pdf>). A *Functional Program* identifies the project's purpose, facility services, departments, anticipated utilization (patient-days, number of visits, etc.), number of employees, equipment, mechanical/electrical systems and key architectural elements. UAMS will provide this *Functional Program* for the ADH to use in determining applicable regulations and codes.

43. CONSTRUCTION DOCUMENTS

UAMS shall indicate requirements for the construction documents format (AutoCAD or Revit). It is UAMS's intent to use BIM during the design, construction and operation of the facility.

44. JOINT COMMISSION STATEMENT OF CONDITIONS

The OPR identifies the requirements for completing the Joint Commission Statement of Conditions (SOC), if applicable. The project team should complete the SOC immediately prior to occupancy.

45. CLOSEOUT DOCUMENTS

Provide UAMS in-house team with submittals, requirements for closeout documents, including TAB reports, electrical tests, fire alarm tests, maintenance manuals, record drawings, etc. as required by in *Owner's General Requirements Division 01*. For healthcare related projects, provide a completed Table 5 Final Occupancy Inspection Check List per *Rules and Regulations for Hospitals and Related Institution in Arkansas* <http://www.healthy.arkansas.gov/aboutADH/RulesRegs/Hospitals.pdf>.