

## *APPENDIX I*

### Minimum In House Primary Key Personnel and Consultant Qualifications

I.01 All key personnel shall have the ability to communicate and effectively demonstrate satisfactory expertise in their individual architectural and engineering disciplines. All key personnel identified by the contract shall meet the minimum qualifications listed below. Should an individual's performance be found unacceptable to the Contracting Officer, the contractor shall replace this individual with another individual – someone who meets the minimum qualifications listed below.

I.02 Senior Project Manager – Shall have a minimum of 10 years experience as a Project Manager, be a registered architect or engineer, with experience in advanced contract administration, cost and pricing, specifications, materials and management of architectural, structural, mechanical electrical and civil engineering services, have a working knowledge of US building codes, scheduling and state of the art methods associated with medical facility construction.

I.03 Regional Project Manager(s) – Shall have a minimum of 10 years experience as a Project Manager, be a registered architect or engineer, with experience in contract administration, cost and pricing, specifications, materials and management of architectural, structural mechanical, electrical and civil engineering services, have a working knowledge of US building codes, scheduling, and state of the art methods associated with medical facility construction.

I.04 Architect(s) – Shall be a registered architect, with a minimum of 10 years experience as a design architect with medical facility design experience, shall have a Bachelor's Degree in Architecture, have a working knowledge of the Uniform Building Code (UBC), Life Safety Code (NFPA 101), Uniform Federal Accessibility Standards (UFAS), The Americans with Disability Act (ADA), OSHA and ASTM standards.

I.05 Civil Site/Sanitary Engineer(s) – Shall be a registered professional engineer with a minimum of 10 years civil sanitary design experience, shall have a Bachelor's Degree in Civil Engineering, with experience in site development, utility design, design of roadways, pavement, cost estimating and landscaping, possess a working knowledge of UFAS, ADA, National Environmental Policy Act regulations EPA, Federal Water Pollution Control Act, and National Pollutant Discharge Elimination System (NPDES).

I.06 Electrical Engineer(s) – Shall be a registered professional engineer with a minimum of 10 years electrical design experience, have a Bachelor's Degree in Electrical Engineering, design experience in power distribution systems, emergency power, lighting, fire alarm and communications systems for health care facilities, and

working knowledge of the latest editions of the National Electrical Code (NEC), NFPA 72, NFPA 99 and 101.

I.07 Mechanical Engineer(s) – Shall be a registered professional engineer with a minimum of 10 years mechanical design experience, shall have a Bachelor's Degree in Mechanical Engineering, design experience in mechanical/plumbing for healthcare facilities. A working knowledge of the latest editions of NFPA 99 and 101, American Society of Heating, Refrigeration, and air conditioning Engineers (ASHRAE) standards, American Society of Mechanical Engineers (ASME) standards, American National Standards Institute (ANSI) standards, ASTM, UBC, and Underwriter's Laboratories, Inc. (UL) ratings.

I.08 Structural Engineer(s) – Shall be a registered structural engineer, with a minimum of 10 years experience in structural design of both vertical and horizontal construction. Shall have a Bachelor's Degree in Civil Engineering. Shall have design and analysis expertise in concrete, structural steel, timber construction, cost estimating, value engineering, masonry, foundations, lateral load, both wind and seismic. Have a working knowledge of structural and building codes and design manuals including the latest editions of ACI 318, AISC, and UBC, Standard Building Code, BOCA, AWS and CRSI handbook.

I.09 Transportation Engineer(s) – Shall have a minimum of 10 years experience as an automatic transport designer. Shall be knowledgeable in all phases of materials handling, automatic transport systems, specifications and costs. Shall have a Bachelor's Degree in Engineering, Health Care, Industrial Management, or related field.

I.10 Cost Estimator(s) – Shall have minimum of 10 years cost estimating experience, have a Bachelor's Degree in Architecture or Engineering field, with experience in healthcare facilities and building construction. Shall be knowledgeable in all phases of both vertical and horizontal construction, value engineering, materials, finishes, major building systems, and medical facility development.

I.11 Interior Designer(s) – Shall have a minimum of 10 years interior design experience in all phases of interior architectural design for health care facilities: planning, programming and coordination, space planning, interior materials and finishes, and signage. Shall have a Bachelor's Degree in Interior Design or a registered architect. Shall have a working knowledge of FSA/VA standards, Federal Supply Schedule and other procurement sources.

I.12 Construction Inspection/Specifications - Shall have a minimum of 10 years experience in construction, renovations, engineering systems such as structural/electrical/mechanical/plumbing/ and utilities. Shall have a Bachelor's Degree in Architecture, Engineering, or Building Construction Management.

I.13 Environmental Engineer(s) – Shall have minimum of 10 years experience in industrial facilities and hazardous waste. Shall have a Bachelor's Degree in Environmental Engineering. Shall have a working knowledge of OSHA, RCRA and CERCLA and the National Emission Standards for Hazardous Air pollutants, National Environmental Policy Act regulations (NEPA), Federal Water Pollution Control Act, and National Pollutant Discharge Elimination System (NPDES), pollution standards for, soil, waste, lead and asbestos sampling.

I.14 Historical Preservation – Shall have a minimum of 10 years experience in restoration, rehabilitation and renovation of historic structures. Shall have a Bachelor's Degree in Architecture and be a registered architect. Shall have a working knowledge of rehabilitation guidelines, historic registers, materials, cost estimating and specifications is required.

I.15 Fire Protection Engineer – Shall be a registered fire protection engineer with a minimum of two year experience in each of the following areas: (1) application of National Fire Protection Association (NFPA) Codes and Standards and the model building codes; (2) design and review of automatic sprinkler and fire alarm systems including shop drawings and hydraulic calculations; (3) design of health care facilities; and (4) acceptance tests of fire protection systems.

I.16 Medical Equipment Planner(s) – Shall have a minimum of 5 years' experience as a Medical Equipment Planner.. Shall have a Bachelor's Degree (minimum) in Biomedical Engineering, Healthcare Administration or an Allied Health discipline; have a working knowledge of US building codes, scheduling, and state of the art methods associated with medical facility construction. Experience in developing equipment lists, interpreting medical equipment needs from clients, performing and analyzing inventory of client's existing medical equipment, as well as participating and leading client meetings

I.17 Space Planner(s) – Shall have a minimum of 5 years' experience in facilities space management. Shall have a Bachelor's Degree in Architecture, Healthcare, or Business Administration, or related fields. Knowledge of space utilization and facilities management, workload analysis, budgetary practices and principles. Demonstrated ability to develop, establish and control methods, procedures and systems to optimize effectiveness of facilities utilization and management, long range planning for facilities projects, scheduling work projects, monitoring work in progress, and inspection of finished projects.