



STATEMENT OF QUALIFICATIONS

Combined State Labs Study
A/E #2018-50-01

February 13, 2018





Russ Katherman, Administrator
Architecture & Engineering Division
1520 East Sixth Avenue, Rm. 33
P.O. Box 200103
Helena, MT 59620-0103

Re: Combined State Labs Study, A/E #2018-50-01

Dear Russ,

The A&E team is pleased to submit this statement of qualifications for professional services. Our firm regularly assists public entities with the services that you seek, and we are most interested to be a part of this effort. Our team's collective experience with similar projects demonstrates an unmatched ability to deliver efficient and creative solutions, resulting in the best outcome for your investment. The team includes all necessary professional disciplines to successfully complete this important project:

A&E Architects - Architecture
RFD - Laboratory Design
GPD, PC - Mechanical, Electrical, and Plumbing Engineering

We are very excited about the prospect of continuing our successful relationship with you to help realize your project goals. Thank you for considering the A&E team.

Sincerely,
A&E Architects, P.C.



Bill DuBeau, AIA
Principal



STATE OF MONTANA

DEPARTMENT OF ADMINISTRATION

ARCHITECTURE AND ENGINEERING DIVISION

1520 East Sixth Avenue • P.O. Box 200103 • Helena MT 59620-0103

Phone: 406 444-3104 • Fax: 406 444-3399

STATEMENT OF QUALIFICATIONS for Specific Projects (Form 115)

PROJECT FOR WHICH THE FIRM IS SUBMITTING

A/E Project Name & Location (list only one project; provide separate Form 115 for each project):	A/E Project #:
Combined State Labs Study	A/E #2018-50-01

PRIME FIRM INFORMATION

Firm Name:	A&E Architects, P.C.	Contact(s) Principal: Project Mgr:	Name	Email Address
Address: (provide mailing address also if different)	428 East Mendenhall Street Bozeman, MT 59715		Bill DuBeau, AIA Jennifer Dunn, RA, LEED AP	bdubeau@aearchitects.com jdunn@aearchitects.com
Phone #: Fax #:	406.451.7310 N/A			

CATEGORIES OF WORK FOR CONSIDERATION

ARCHITECTURAL:		ENGINEERING:	
General Practice	X	Mechanical	X
Historic Restoration		Electrical	X
Exterior Envelope		Structural	
Master Planning/Programming		Civil	
Interior Design		Environmental	
		AV/Comm/Data/IT	
SPECIALTY/OTHER:		LANDSCAPE ARCH:	
Acoustics		General Practice	
Laboratory Design	X	Master Planning	
Construction Management		Environmental	
Geotechnical/Materials Testing			
Haz Materials Testing/Mitigation			

FIRM PROFILE

Year Firm was established:				1973	
# of Offices in Montana (provide address & contact list if more than one): 608 N. 29th St., Billings, MT 59101, 406.248.2633 428 E. Mendenhall St., Bozeman, MT 59715, 406.451.7310 222 N. Higgins, Missoula, MT 59802, 406.721.5643				3	
TOTAL PROFESSIONALS/PERSONNEL (provide total & location-specific list):					
	Total	Bozeman		Total	Bozeman
Architects	23	5	Mechanical	0	0
A.I.T.	12	2	Electrical	0	0
Interior Designer	3	1	Structural	0	0
Landscape Architect	0	0	Civil	0	0
Specification Writer	0	0	E.I.T.	0	0
Cost Estimator	1	0	Environmental	0	0
Construction Administrator	2	0	Energy Analysis	0	0
Production Staff	1	0	Commissioning	0	0
Accounting	1	0	Environmental Graphics	1	1
Administrative Support	3	0	Total	47	9

LIST THE FIRM NAME AND ADDRESS FOR EACH OF THE CONSULTANTS ON THIS PROJECT (if different from PRIME above).

SPECIALTY CONSULTING FIRM INFORMATION - LABORATORY DESIGN CONSULTANTS

Firm Name:	Research Facilities Design (RFD)	Contact(s) Principal: Project Manager: Project A/E:	Name	Email Address
Address: (provide mailing address also if different)	3965 Fifth Avenue, Suite 400 San Diego, CA 92103		Richard M. Heinz, FAIA, LEED AP John G. Lewis	rmh@rfd.com jgl@rfd.com
Phone #: Fax #:	619.297.0159 619.294.4901			

MECHANICAL ENGINEER FIRM INFORMATION

Firm Name:	GPD, PC	Contact(s) Principal: Project Manager: Project A/E:	Name	Email Address
Address: (provide mailing address also if different)	524 1st Ave South Great Falls, MT 59401		Dave Broquist Mike Bender	dbro@gpdinc.com bender@gpdinc.com
Phone #: Fax #:	406.452.9558 406.727.9720			

ELECTRICAL ENGINEER FIRM INFORMATION

Firm Name:	GPD, PC	Contact(s) Principal: Project Manager: Project A/E:	Name	Email Address
Address: (provide mailing address also if different)	524 1st Ave South Great Falls, MT 59401		Bucky Kempa Brad Kauffman	bucky@gpdinc.com bradk@gpdinc.com
Phone #: Fax #:	406.452.9558 406.727.9720			

PROVIDE BRIEF RESUMÉ OF KEY PERSONS OF PRIME FIRM ASSIGNED TO THIS PROJECT (add tables as required)

<p>Name: Bill DuBeau, AIA Title: Principal Firm Name: A&E Architects Role on This Project: Principal-in-Charge Years w/ This Firm: 12 Education (degree/year): Montana State University, Master of Architecture, 2009 Bachelor of Architecture, 1994 Active Registrations: Architect: MT</p>	<p>Experience & Qualifications Relevant to This Project:</p>	<p>Bill possesses extensive project management skills, astute in the coordination of schedules, estimates, and team communication. Through complex problem-solving and creative, critical thinking, he preserves the original vision of projects from start to finish. He offers a broad range of experience in a variety of project types, including commercial, industrial, higher education, and medical facilities. Utilizing his strong relational and organizational skills with contractors, subcontractors, and consultants, Bill draws from his talent of integrating unique design concepts with building systems for successful project completion.</p> <ul style="list-style-type: none"> • MSU, Norm Asbjornson Hall; Bozeman, MT • NIH, Rocky Mountain Labs, Building B; Hamilton, MT • MSU Innovation Campus; Bozeman, MT • City of Billings, Water Treatment Plant Lab Renovation; Billings, MT • NIH, Rocky Mountain Labs, CCR Data Center; Hamilton, MT
<p>Name: Jennifer Dunn, RA, LEED AP Title: Architect Firm Name: A&E Architects Role on This Project: Project Manager Years w/ This Firm: 2 Education (degree/year): Montana State University, Master of Architecture, 2007 Bachelor of Arts, Environmental Design, 2006 Active Registrations: Architect: MT LEED Accredited Professional</p>	<p>Experience & Qualifications Relevant to This Project:</p>	<p>Jennifer returned to the Bozeman community after seven years spent in New York where she gained an extensive background in many aspects of the project process: from design and schematics to documentation and project management. Her design knowledge is derived from working at various specialized firms in historic preservation, residential, interior and public design. She has a great passion for community design, working for and with a community to use design to solve problems.</p> <ul style="list-style-type: none"> • MSU Innovation Campus, Applied Research Lab; Bozeman, MT • Bozeman Midtown Action Plan Corridor Revitalization; Bozeman, MT • Bozeman SD#7, Various Projects; Bozeman, MT • USFS, Kamiah Warehouse Conversion; Kamiah, ID • Northwestern Energy, Major Addition & Renovation; Bozeman, MT

PROVIDE BRIEF RESUMÉ OF KEY PERSONS OF CONSULTING FIRMS ASSIGNED TO THIS PROJECT (add tables as required)

<p>Name: Richard M. Heinz, FAIA, LEED AP Title: Vice President Firm Name: Research Facilities Design (RFD) Role on This Project: Principal-in-Charge of Lab Planning Years w/ This Firm: 33 Education (degree/year): Kansas State University, Bachelor of Architecture, 1979 Bachelor of Science, Business Administration, 1979 Active Registrations: Architect: AL, CA, DE, GA, HI, IL, IN, IA, KS, KY, MD, MI, MN, MO, MT, NE, NV, NY, NC, OH, OK, PA, SD, TN, TX, UT, VA, WY LEED Accredited Professional</p>	<p>Experience & Qualifications Relevant to This Project:</p>	<p>Richard's experience includes a broad range of laboratory programming, design, and project management for complex projects including work for higher education, industry, medical, and governmental clients. He has placed a special career emphasis on undergraduate STEM facilities for public and private institutions. He has developed a broad understanding of laboratory design concepts and the resulting impact on the building's structural, mechanical, and electrical systems, and is especially proficient at integrating these requirements with the working environment to produce a facility which meets the client's requirements.</p> <ul style="list-style-type: none"> • MSU, Norm Asbjornson Hall; Bozeman, MT • UofM, Chemistry Building Renovation Study; Missoula, MT • MSU, Chemistry Research Building; Bozeman, MT • MSU, Gaines Hall Renovation; Bozeman, MT • Kansas State University, Food & Agriculture Systems Teaching, Extension & Research, Facility Master Plan; Manhattan, KS
<p>Name: John G. Lewis Title: Laboratory Consultant Firm Name: Research Facilities Design (RFD) Role on This Project: Project Manager of Lab Planning Years w/ This Firm: 20 Education (degree/year): N/A Active Registrations: N/A</p>	<p>Experience & Qualifications Relevant to This Project:</p>	<p>John is responsible for laboratory programming, planning and design, and managing production. He is also in charge of planning, coordinating, and supervising the development of program drawings and design criteria, design development, and construction documents. This includes, but is not limited to, interviewing users in work sessions, interpreting data collected in user meetings, and developing project specifications and detailed cost estimates. John evaluates the client's needs and budget requirements, and makes recommendations to solve the client's problem within the budget constraints. He is responsible for coordinating the design of laboratory furnishings and equipment, as well as mechanical, plumbing, and electrical services.</p> <ul style="list-style-type: none"> • MSU, Instructional Lab Renovations; Bozeman, MT • UC, Riverside, Genomics Research Building; Riverside, CA • University of Nebraska Medical Center, Durham Research Center II; Omaha, NE • University of Kentucky, Center For Applied Energy Research Laboratory Building 2; Lexington, KY • UofW, Michael B. Enzi S.T.E.M. Undergraduate Laboratory Facility; Laramie, WY

PROVIDE BRIEF RESUMÉ OF KEY PERSONS OF CONSULTING FIRMS ASSIGNED TO THIS PROJECT (add tables as required)

<p>Name: Dave Broquist, PE Title: Senior Mechanical Engineer Firm Name: GPD, PC Role on This Project: Principal Years w/ This Firm: 31 Education (degree/year): Montana State University, Bachelor of Science, Mechanical Engineering, 1981 Active Registrations: Professional Engineer: MT, CA, UT,CO</p>	<p>Experience & Qualifications Relevant to This Project:</p>	<p>Dave has 31 years experience in all aspects of HVAC and plumbing systems for commercial, residential, industrial, institutional, and healthcare projects for both new and remodel construction. Dave served on the NIH's National/ Regional Biological Containment Laboratory Site Selection Committee and has served on the Montana Building Codes Council for the past four years.</p> <ul style="list-style-type: none"> • NIH, Rocky Mountain Laboratories, IDIQ; Hamilton, MT • MSU, Cooley Lab Renovation; Bozeman, MT • MSU, Animal Bioscience Facility; Bozeman, MT • UofM, Skaggs Building Addition; Missoula, MT
<p>Name: Mike Bender, PE Title: Senior Mechanical Engineer Firm Name: GPD, PC Role on This Project: Mechanical Engineer Years w/ This Firm: 21 Education (degree/year): Montana State University, Bachelor of Science, Mechanical Engineering, 1996 Active Registrations: Professional Engineer: MT</p>	<p>Experience & Qualifications Relevant to This Project:</p>	<p>Mike is a registered mechanical engineer experienced in designing mechanical systems and is competent in all phases of project design and management including feasibility studies, cost estimation, construction administration, and inspections. Projects have included biological safety level-3 laboratories, animal holding facilities, commercial office spaces, educational facilities, industrial facilities, and high-end residences.</p> <ul style="list-style-type: none"> • MSU, Cooley Lab Renovation; Bozeman, MT • MSU, Animal Bioscience Facility; Bozeman, MT • UofM, Skaggs Building Addition; Missoula, MT • UofM, Integrated Research Facility; Missoula, MT
<p>Name: Daniel (Bucky) Kempa, PE, LEED AP Title: Principal/Electrical Engineer Firm Name: GPD, PC Role on This Project: MEP Project Manager Years w/ This Firm: 27 Education (degree/year): Montana State University, Bachelor of Science, Electrical Engineering, 1990 Active Registrations: Professional Engineer: MT, WY, ID, CO, UT, WA, IA, IL, MI, CA, ND, OR</p>	<p>Experience & Qualifications Relevant to This Project:</p>	<p>Bucky has spent his entire career with GPD starting as a staff engineer and progressing on to become a firm Principal. He has developed extensive experience designing lighting, power distribution, emergency power, telephone/data, fire alarm, security/access control, and automated/PLC systems. He has been involved in the design and renovation of many different types of commercial and industrial buildings, including hospitals, computer centers, office buildings, research centers, schools, water treatment plants, laboratories, and animal research facilities.</p> <ul style="list-style-type: none"> • NIH, Rocky Mountain Laboratories, Various Projects; Hamilton, MT • St. Peters Hospital Renovation; Helena, MT • UofM, Skaggs Building Addition; Missoula, MT • NIH, Rocky Mountain Laboratories, Building 7 Renovation; Hamilton, MT

PROVIDE BRIEF RESUMÉ OF KEY PERSONS OF CONSULTING FIRMS ASSIGNED TO THIS PROJECT (add tables as required)

Name: Title: Firm Name: Role on This Project: Years w/ This Firm: Education (degree/year): Active Registrations:	Brad Kauffman, PE, LEED AP Senior Electrical Engineer GPD, PC Electrical Engineer 14 Montana State University, Bachelor of Science, Electrical Engineering, 2000 Professional Engineer: MT, WY, ID, WI, SD, NE	Experience & Qualifications Relevant to This Project:	Brad's responsibilities include engineering design of electrical systems from schematics through construction. Systems designed have included interior and exterior lighting, power and distribution, data and communications, alarm and detection, emergency power, and nurse call. Brad has 17 years of experience in the design of these systems. He is a licensed professional engineer and is registered in six states. <ul style="list-style-type: none"> • MSU, Cooley Lab Renovation; Bozeman, MT • MSU, Animal Bioscience Facility; Bozeman, MT • UofM, Integrated Research Facility; Missoula, MT • MSU, Marsh Labs; Bozeman, MT • UofM, Missoula College; Missoula MT
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PROJECTS BY PRIME FIRM THAT BEST ILLUSTRATE QUALIFICATIONS RELEVANT TO THIS PROJECT (limit of 5 projects)

Project Name & Location	Brief Project Description	GSF, Cost/SF, & Year Completed	Owner Contact Info
Montana State University Norm Asbjornson Hall Bozeman, Montana	<p>The new Norm Asbjornson Hall is planned to be a model for collaborative, cross-disciplinary study - to literally change the way engineering is taught. The 114,603 SF building will combine new labs and offices for the College of Engineering with classrooms, 20,000 SF of maker space, a multi-purpose presentation hall, and a new home for the Honors College. An integrated design process has successfully engaged stakeholders from across the MSU campus and Bozeman community to build consensus and inform the programming and schematic design of this diverse project.</p> <p>Along with ZGF, the A&E team is engaged in energy simulation and exploring sustainable concepts through the design process. As sustainable goals for the project, fiscally-minded innovation and flexible and forward-looking concepts have been combined with comfort and climate responsive design. It is also the vision of the design team, along with all the project stakeholders, to demonstrate these sustainable strategies as an educational tool within the building.</p>	GSF: 114,603 Cost/SF: \$333 Year Completed: To Be Completed in 2019	Walt Banziger Director of Campus Planning, Design & Construction Montana State University 406.994.2001

PROJECTS BY PRIME FIRM THAT BEST ILLUSTRATE QUALIFICATIONS RELEVANT TO THIS PROJECT (limit of 5 projects)

<p>MSU Innovation Campus Applied Research Lab Bozeman, Montana</p>	<p>The MSU Innovation Campus serves as an advanced research park, designed to create opportunities for researchers, students, and local technology companies. The MSUIC aims to satisfy the growing demand for top-tier research and technology workspaces, while fulfilling local economic development goals in the Gallatin Valley.</p> <p>Phase 1 of the project is underway, beginning with the development of its first building – a 18,000 SF Applied Research Lab. The Lab aims to strengthen the research capabilities of MSU and expand the commercialization of technology related to the University's clusters of academic excellence: biotechnology, photonics, optics, biofilm engineering, and cyber security. It combines unclassified spaces, including building services and conference rooms, with classified spaces, including VTR laboratories and SCIF areas.</p>	<p>GSF: 18,000 Cost/SF: In Progress Year Completed: In Progress</p>	<p>Justin Cook, Director Controlled Research Group MSU, Office of Research Compliance 406.994.4171</p>
<p>Kalispell Regional Medical Center Surgical Services Tower Kalispell, Montana</p>	<p>A&E Architects worked in conjunction with KRMCC's Director of Design, Marcello Pierrottet, to plan and design a new Surgical Services tower. This new addition to the KRMCC campus houses eight operating suites with four future suites, all having full integration, imaging, and robotics capability. These operating theaters, a sterile core, an 18-room P.A.C.U., and 18-room same-day surgery unit, as well as staff and physician support, fill the 2nd floor. The first floor includes a new central sterile processing department, new elevator banks, and a heated ambulance drop-off enclosure. The new basement contains information technology systems and mechanical/electrical infrastructure systems. The third floor is shelled for future acute care services, while the 4th and 5th floors are planned for construction at a later date. A&E also analyzed sterile processing capacities and methodologies, and closely scrutinized staff/patient process efficiencies. The new addition takes advantage of a multitude of energy saving strategies, including passive day lighting and ground-source geothermal heat exchange.</p>	<p>GSF: 125,045 Cost/SF: \$275 Year Completed: 2013</p>	<p>Marcello Pierrottet Director of Design Kalispell Regional Medical Center 406.751.5766</p>

PROJECTS BY PRIME FIRM THAT BEST ILLUSTRATE QUALIFICATIONS RELEVANT TO THIS PROJECT (limit of 5 projects)

<p>NIH, Rocky Mountain Labs Comparative Medicine Center Hamilton, Montana</p>	<p>This facility is part of a far-reaching overall effort to modernize and expand the RML campus as needs continue to grow and evolve. The new building has been planned to be built in two phases. Phase 1 of the RCMC will be an "L" shaped plan to be located at the southeast corner of the building site. Phase 2 of the building is planned to be added at the northwest corner of the site at a future date, and infill to the full rectangular shaped plan.</p> <p>The RCMC facility is designed to provide for highly specific requirements while conforming to a BSL-3 level of design, with the utmost attention paid to highly durable and cleanable laboratory finishes. The design includes highly sophisticated mechanical and plumbing systems, with fully redundant fresh air intake and exhaust, and state-of-the art equipment.</p>	<p>GSF: 49,298 Cost/SF: Not applicable Year Completed: To be Completed in 2019</p>	<p>James Parr Contracting Officer NIH, Rocky Mountain Labs 406.363.9207</p>
<p>NIH, Rocky Mountain Labs CCRF/Chiller Facility Hamilton, Montana</p>	<p>A portion of an existing office building (approx. 5,400 SF) was repurposed into a new data center facility or Consolidated Computational Research Facility (CCRF). Work included extensive coordination with mechanical, electrical, plumbing, fire protection, landscaping, vibration, and technology consultants. Mechanical systems work includes construction of a new bidirectional fault-tolerant chilled water distribution system teamed with in-row type chilled water cooling units situated on the raised data floor. New heat exchangers, redundant chilled water pumps, chilled water storage tanks and controls, along with a local low ambient emergency air cooled chiller will be installed to support the data center cooling needs. Systems to include new interior and exterior distribution gear, automatic transfer switches, uninterruptible power supplies, transformers, power transformers, and remote power supplies. Special systems include fire alarm systems, access control, video surveillance, and paging.</p>	<p>GSF: 5,400 Cost/SF: N/A Completed: 2017</p>	<p>James Parr Contracting Officer NIH, Rocky Mountain Labs 406.363.9207</p>

PROJECTS BY PRIMARY CONSULTANT(S) THAT BEST ILLUSTRATE QUALIFICATIONS RELEVANT TO THIS PROJECT (limit of 3 projects/firm)

Research Facilities Design (RFD)			
Project Name & Location	Brief Project Description	GSF, Cost/SF, & Year Completed	Owner Contact Info
Kansas State University, College of Agriculture Food & Agriculture Systems Teaching, Extension & Research (FASTER) Facility Study Manhattan, Kansas	Master planning and preliminary programming services for K-State College of Agriculture and K-State Extension and Research in support of the University's 2025 Strategic Plan to become a Top 50 Public Research Institution. This study included iterative work sessions with college leadership, the stakeholder committee, and departmental representatives from the Departments of Agricultural Economics; Biological and Agricultural Engineering; Agronomy; Horticulture, Forestry and Recreation; Plant Pathology; Entomology; Animal Science and Industry; and Grain Science and Industry. The study included analysis of College of Agriculture space in seven existing buildings and identified the projected space needs of the College totaling approximately 1.2 million gross SF including a Phase 1 new teaching/research facility of 264,400 GSF and renovation of 36,000 GSF of existing space.	GSF: Total Analyzed Area: 1.2M Cost/SF: N/A Year Completed: 2016	John Floros Dean, College of Agriculture Director, Research & Extension 785.532.6011
California State University, Fresno Jordan Agricultural Research Center Fresno, California	This shared research facility houses over 10,100 SF of laboratory research and laboratory support space for the College of Science and Mathematics, Lyles College of Engineering, and the Jordan College of Agricultural Sciences. Research for environmental quality, bioenergy systems, genomics, and plant physiology is conducted in the open laboratories on each floor. While specialized, isolated laboratory spaces have been designed for work related to microbiology, pathology and entomology research. Dedicated lab spaces to support these research functions include sterilization, media prep, incubator/freezer rooms, instrument analysis, and controlled environment rooms.	GSF: 34,000 Cost/SF: \$508 Year Completed: 2016	Debbie Adishain-Astone AVP for Auxiliary Operations California State University, Fresno 559.278.4240

PROJECTS BY PRIMARY CONSULTANT(S) THAT BEST ILLUSTRATE QUALIFICATIONS RELEVANT TO THIS PROJECT (limit of 3 projects/firm)

Research Facilities Design (RFD)			
Project Name & Location	Brief Project Description	GSF, Cost/SF, & Year Completed	Owner Contact Info
Iowa State University Sukup Hall for Agricultural & Biosystems Engineering Ames, Iowa	The building houses many educational and research laboratories critical to enhancing the department's global impact. Research is directed toward biosystems engineering through the use of biosensors, image analysis, biological systems modeling, and the design and control of biological systems and processes. Biorenewable and biofuels products and processes are an important focus of these research efforts. Other research efforts include agricultural water quality and management, engineering for economically and environmentally sound animal production systems, grain handling, food processing, agricultural machine design and automated controls, precision farming systems, agricultural safety, seed conditioning and processing, and soil tillage and management systems.	GSF: 119,000 Cost/SF: \$396 Year Completed: 2014	Robert P. Anex Associate Professor Iowa State University 515.294.6576

PROJECTS BY PRIMARY CONSULTANT(S) THAT BEST ILLUSTRATE QUALIFICATIONS RELEVANT TO THIS PROJECT (limit of 3 projects/firm)

GPD, PC			
Project Name & Location	Brief Project Description	GSF, Cost/SF, & Year Completed	Owner Contact Info
Montana State University Tietz Hall/ARC Remodels/Study Bozeman, Montana	<p>Cage Wash and Autoclave Project From 2005-2007, GPD completed projects to replace a cage wash machine and autoclave, which also required a new steam generator to accommodate the new steam load. The project included creating a new room in the existing cage wash room. As part of that work, the electrical service required modifications to accommodate the new electric steam generator.</p> <p>BSL3 Animal Holding Room In 2005, GPD developed construction documents to modify one of the existing animal holding rooms into a BSL3 room to allow housing infected animals. Ultimately, with changes to the program, this project was not constructed.</p> <p>Critical Systems Study In 2013, GPD conducted a system evaluation of the MEP systems for the Animal Resource Center (Tietz Hall) and developed concept plans and construction estimates for upgrades and replacement of the existing systems.</p> <p>Boiler System Replacement In 2014, GPD completed construction documents and project management to replace and upgrade the defunct gas boilers that are the only means of redundant heat in the building as well as upgrading air handling unit controls and the heat recovery/fresh air preheat systems.</p>	GSF: N/A Cost/SF: N/A Year Completed: 2005-2014	State of Montana Architecture and Engineering Division 406.444.3104

PROJECTS BY PRIMARY CONSULTANT(S) THAT BEST ILLUSTRATE QUALIFICATIONS RELEVANT TO THIS PROJECT (limit of 3 projects/firm)

GPD, PC			
Project Name & Location	Brief Project Description	GSF, Cost/SF, & Year Completed	Owner Contact Info
Montana State University Cooley Lab Renovation Bozeman, Montana	<p>This project was funded through a NIH Grant and the project construction had to meet the stringent requirements of the National Institutes of Health's Design Requirements Manual which are minimum standards for Laboratory and Animal Facilities for the NIH. The spaces were primarily made into state-of-the-art laboratories designed to be flexible enough to support multiple forms of research. The mechanical and electrical systems were completely replaced throughout the facility. The building was seismically upgraded to meet current code requirements and NIH Standards.</p> <p>The project included adding a new mechanical penthouse to locate all the new HVAC systems. A new high efficiency chiller was added, along with a heat pump heat recovery system and other energy savings features. As part of the design, the project also included a new electrical distribution system for the building that included a new emergency power generator. The completed laboratory received LEED Gold certification.</p>	<p>GSF: 30,000 Cost/SF: \$500 Year Completed: 2008</p>	<p>State of Montana Architecture and Engineering Division 406.444.3104</p>
Montana State University Marsh Laboratories Small Animal Facility Bozeman, Montana	<p>Completed in 2007, this was a complete renovation of an existing 3,500 SF BSL-2 small animal facility off the main MSU campus into a new BSL-3 small animal containment facility. The project includes laboratory suites, animal holding rooms, an aerosolization chamber room, and a hydrogen peroxide vapor (HPV) decontamination room. Construction included a new mechanical penthouse/interstitial space and a new ground floor mechanical room with redundant air handling units, boilers, exhaust fans, exhaust HEPA filtration equipment, water treatment, and DDC control systems. This building is a certified ABSL-3 with the NIH and underwent successful recertification under the 5th edition of the BMBL.</p>	<p>GSF: 3,500 Cost/SF: \$400 Year Completed: 2007</p>	<p>State of Montana Architecture and Engineering Division 406.444.3104</p>

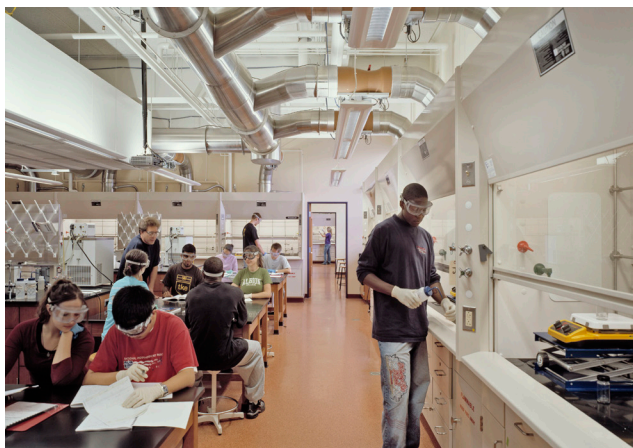
SIGNATURE (signature should be that of the firm's principal/owner)

Bill DuBeau, AIA



NAME	SIGNATURE
Principal, A&E Architects, P.C.	2/13/18
TITLE	DATE

The state of Montana makes reasonable accommodations for any known disability that may interfere with an applicant's ability to compete in the application and selection process or that may interfere with an applicant's ability to perform the essential duties of the job. In order for the state to make such accommodations, applicants must make known any needed accommodation to the individual project managers or agency contacts listed. Persons using TDD may call the Montana Relay Service at 1-800-253-4091.



A&E Architects

A&E Architects has been providing architectural, project management, and construction administration services in the northern Rocky Mountain Region for almost 45 years from offices in Billings, Bozeman, and Missoula, Montana. We are a versatile firm with a strong commitment to client satisfaction, quality design, and improving the built environment.

Our staff of 47 professionals have each been selected for their experience and diversity, and their balance of design and technical skills. The staff includes 24 licensed architects, 16 designers, two construction administrators, an IT/CADD manager, and four office administrators. By combining talented architects and experienced construction personnel with seasoned principals, we energize the design and construction process.

The architects of A&E have acquired a unique appreciation of timelessness — and a corresponding ability to create designs of substance. One result of our philosophy is that A&E buildings not only endure, but also function comfortably and naturally for their owners and users.

RFD

Research Facilities Design (RFD) is a firm of laboratory design consultants focused exclusively on the programming and design of laboratory buildings for industry, healthcare, research, and education. Located coast to coast with offices in San Diego, California, and Raleigh, North Carolina, RFD's staff of architects, engineers, and laboratory planners work cohesively to provide seamless project management and delivery.

RFD's practice has been built with 100% focus on the programming, design, and execution of laboratory, support, and core facilities. They do not provide any other services or work on any other project types. As such, their dedicated focus enables them to stay current with the latest trends, standards, codes, regulations, and guidelines which impact this specific facility type as well as the ever-changing technology of laboratory furnishings, fume hoods, equipment, and instrumentation.



RFD has an unparalleled database of critical area and cost benchmarking information. They have gathered this information from hundreds of projects over the past 30 years representing a range of science and engineering facility types. When working on a new project, they select the most appropriate representative projects from their historical database to help validate a variety of area and cost ratios during programming. These ratios include Net/Gross Area ratio, ratio of Laboratory to Laboratory Support Space, Laboratory Density, and Construction Cost/GSF. This process helps give the owner and design team a comfort level with the project parameters at an early stage, allowing the team to proceed into the design phases with greater confidence.

Their approach to designing laboratory spaces is highly collaborative. They actively seek input from all project stakeholders including faculty members, researchers, administration staff, maintenance personnel, health and safety officers - as well as the other members of the design team. Within their office itself, their approach follows a similar paradigm whereby intelligent discourse amongst professionals with their own experiences and opinions leads to solutions which are greater than the knowledge of any one individual.

RFD's in-house mechanical engineers provide a range of planning, design, and consulting services to the architect and building engineers. Their goal is not to eliminate the need for the local MEP engineering team, but to augment and guide the team by preparing laboratory systems design criteria during programming, laboratory equipment heat gain calculations during the design development phase, and coordination reviews between the laboratory and building system components during the construction documents phase.

RFD also offers additional laboratory engineering services such as Laboratory Plumbing (LP) Engineering, Laboratory Electrical (LE) Engineering, and Enhanced Laboratory Engineering. When RFD is contracted to provide the LP and LE services, their engineers provide laboratory plumbing and electrical load calculations, flow rates, points-of-connection schedules, and laboratory piping and electrical design from the points-of connection in the corridor to the points of use in the laboratory. Enhanced Laboratory Engineering services may include the full design of HVAC and process piping systems for specialty areas such as cleanrooms, vivariums, GMP facilities, and BSL3 suites.



GPD

GPD, PC has been in business for over 50 years. The company was founded on a vision of quality and their core values are to provide the very best in engineering consulting and to produce the highest quality. They cherish long and prosperous relationships with a number of clients for whom they have worked over a span of decades.

They have provided extensive design services at nearly every major Montana campus for higher education along with many other State buildings, including trade school and vocational institutions. They believe their depth of experience with campus facilities and systems make them an asset for projects such as this. Their goals will be to help prioritize needs and desires for the building systems and to help make design decisions today which will have a positive impact to the operation and maintenance needs of the facility for the next several decades to come.

GPD's team of 15 professionals includes mechanical and electrical engineers, designers, project managers, and administrative staff. They are members of the Green Building Council and currently have three LEED Accredited Professionals on staff. They are cognizant of both the economic and environmental impacts of design decisions and strive to help their client's decisions which are both financially prudent and environmentally sound.



MSU Innovation Campus - Applied Research Lab; Bozeman, MT *A&E Architects, RFD, and GPD*

The MSU Innovation Campus serves as an advanced research park, designed to create opportunities for researchers, students, and local technology companies. The MSUIC aims to satisfy the growing demand for top-tier research and technology workspaces, while fulfilling local economic development goals in the Gallatin Valley.

Phase 1 of the project is underway, beginning with the development of its first building – a 18,000 sf Applied Research Lab. The Lab aims to strengthen the research capabilities of MSU and expand the commercialization of technology related to the University's clusters of academic excellence: biotechnology, photonics, optics, biofilm engineering, and cyber security. It combines unclassified spaces, including building services and conference rooms, with classified spaces, including VTR laboratories and SCIF areas.







Iowa State University, Sukup Hall for Agricultural & Biosystems Engineering; Ames, IA
RFD

The building houses many educational and research laboratories critical to enhancing the department's global impact. Research is directed toward biosystems engineering through the use of biosensors, image analysis, biological systems modeling, and the design and control of biological systems and processes. Biorenewable and biofuels products and processes are an important focus of these research efforts. Other research efforts include agricultural water quality and management, engineering for economically and environmentally sound animal production systems, grain handling and food processing, agricultural machine design and automated controls, precision farming systems, agricultural safety, seed conditioning and processing, and soil tillage and management systems.

NIH, Rocky Mountain Labs, Comparative Medicine Center *Hamilton, Montana*

This facility is part of a far-reaching overall effort to modernize and expand the RML campus as needs continue to grow and evolve. The new building has been planned to be built in two phases. Phase 1 of the RCMC will be an “L” shaped plan to be located at the southeast corner of the building site. Phase 2 of the building is planned to be added at the northwest corner of the site at a future date, and infill to the full rectangular shaped plan.

The RCMC facility is designed to provide for highly specific requirements while conforming to a BSL-3 level of design, with the utmost attention paid to highly durable and cleanable laboratory finishes. The design includes highly sophisticated mechanical and plumbing systems, with fully redundant fresh air intake and exhaust, and state-of-the art equipment.







Montana State University, Norm Asbjornson Hall; Bozeman, MT
A&E Architects and RFD

The new Norm Asbjornson Hall, is planned to be a model for collaborative, cross-disciplinary study - to literally change the way engineering is taught. The 114,603 SF building will combine new labs and offices for the College of Engineering with classrooms, 20,000 SF of maker space, a multi-purpose presentation hall, and a new home for the Honors College. An integrated design process has successfully engaged stakeholders from across the MSU campus and Bozeman community to build consensus and inform the programming and schematic design of this diverse project.

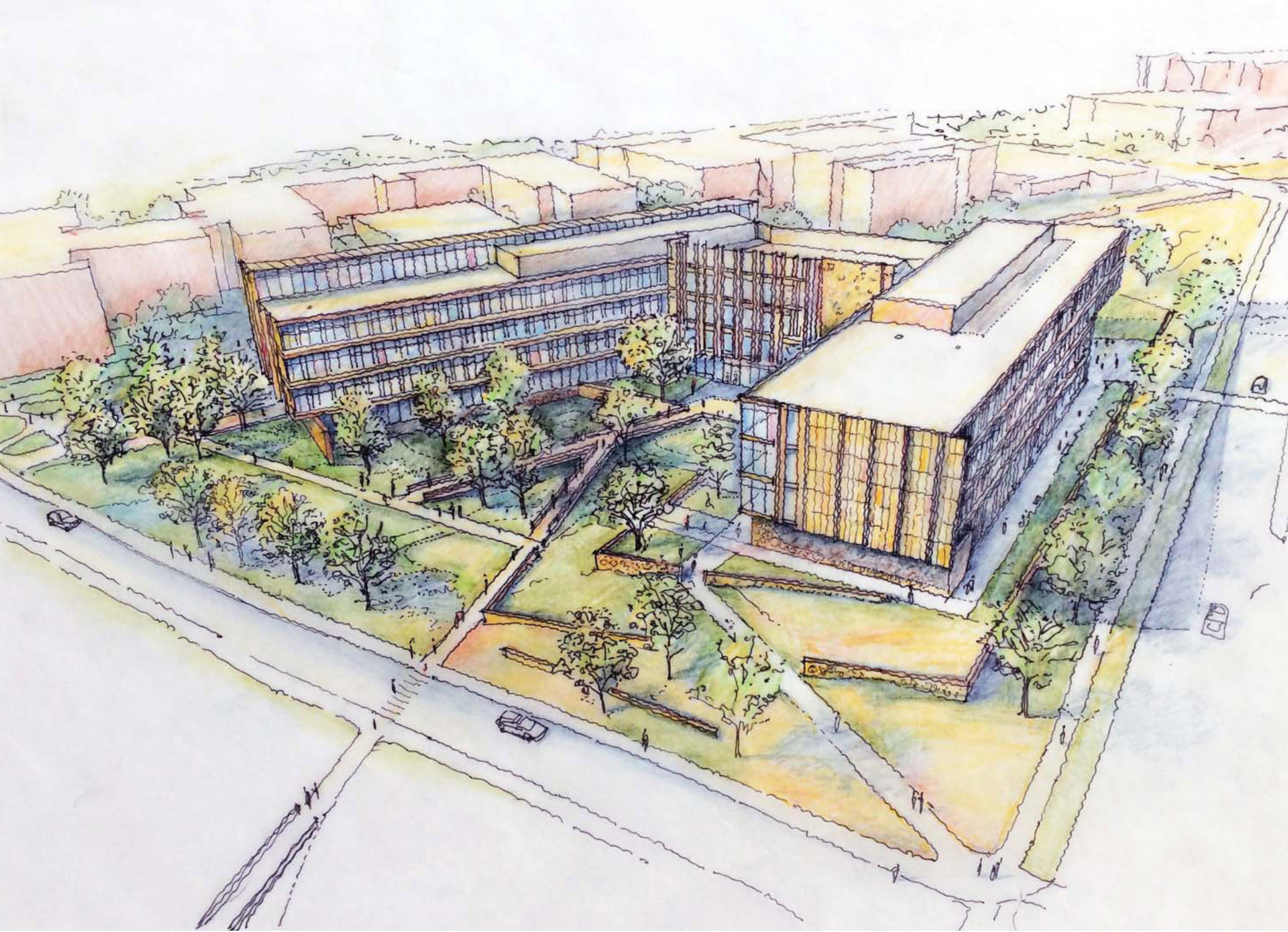
Along with ZGF, the A&E team is engaged in energy simulation and exploring sustainable concepts through the design process. As sustainable goals for the project, fiscally-minded innovation and flexible and forward-looking concepts have been combined with comfort and climate responsive design. It is also the vision of the design team, along with all the project stakeholders, to demonstrate these sustainable strategies as an educational tool within the building.



University of Nebraska Medical Center, Durham Research Center II; Omaha, NE
RFD

99,700 NSF of laboratory and laboratory support space in a 250,400 GSF building for the Departments of Pathology and Microbiology, the Center for Biosecurity, and the Nebraska Public Health Labs. This facility includes laboratory and laboratory support space for the Developmental Biology (Stem Cell) and Neuroscience Centers of Excellence. Facilities include General Developmental Biology and Neuroscience Laboratories supported by Core Facilities including molecular diagnostics, chemical terrorism laboratories, micro array, monoclonal research, protein analysis, and Biosafety Level Three (BSL-3) containment laboratory. Other laboratory support spaces include cell and tissue culture rooms, instrument and equipment rooms, imaging/dark rooms, controlled temperature rooms, and a 12,687 SF vivarium.

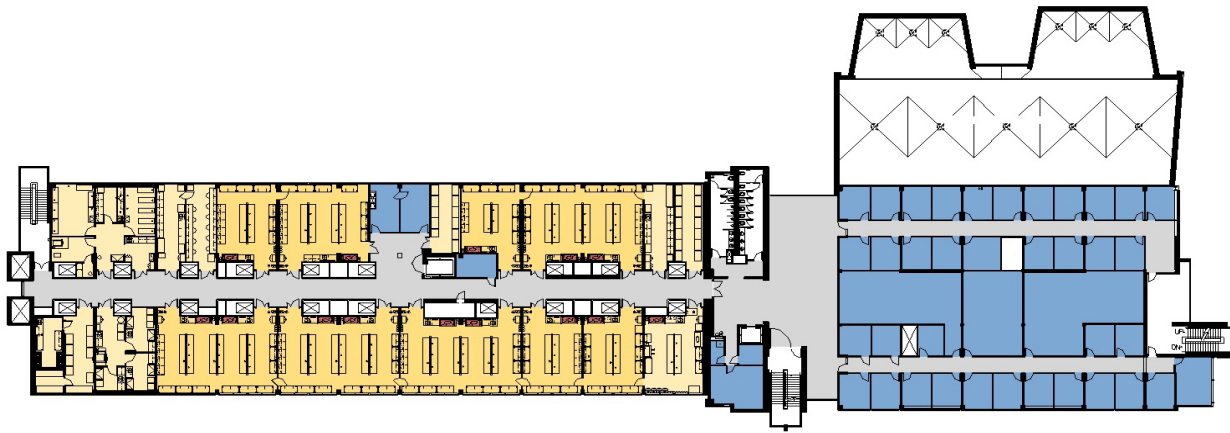




Kansas State University, College of Agriculture, Food & Agriculture Systems Teaching, Extension & Research
(FASTER) Facility Study; Manhattan, KS

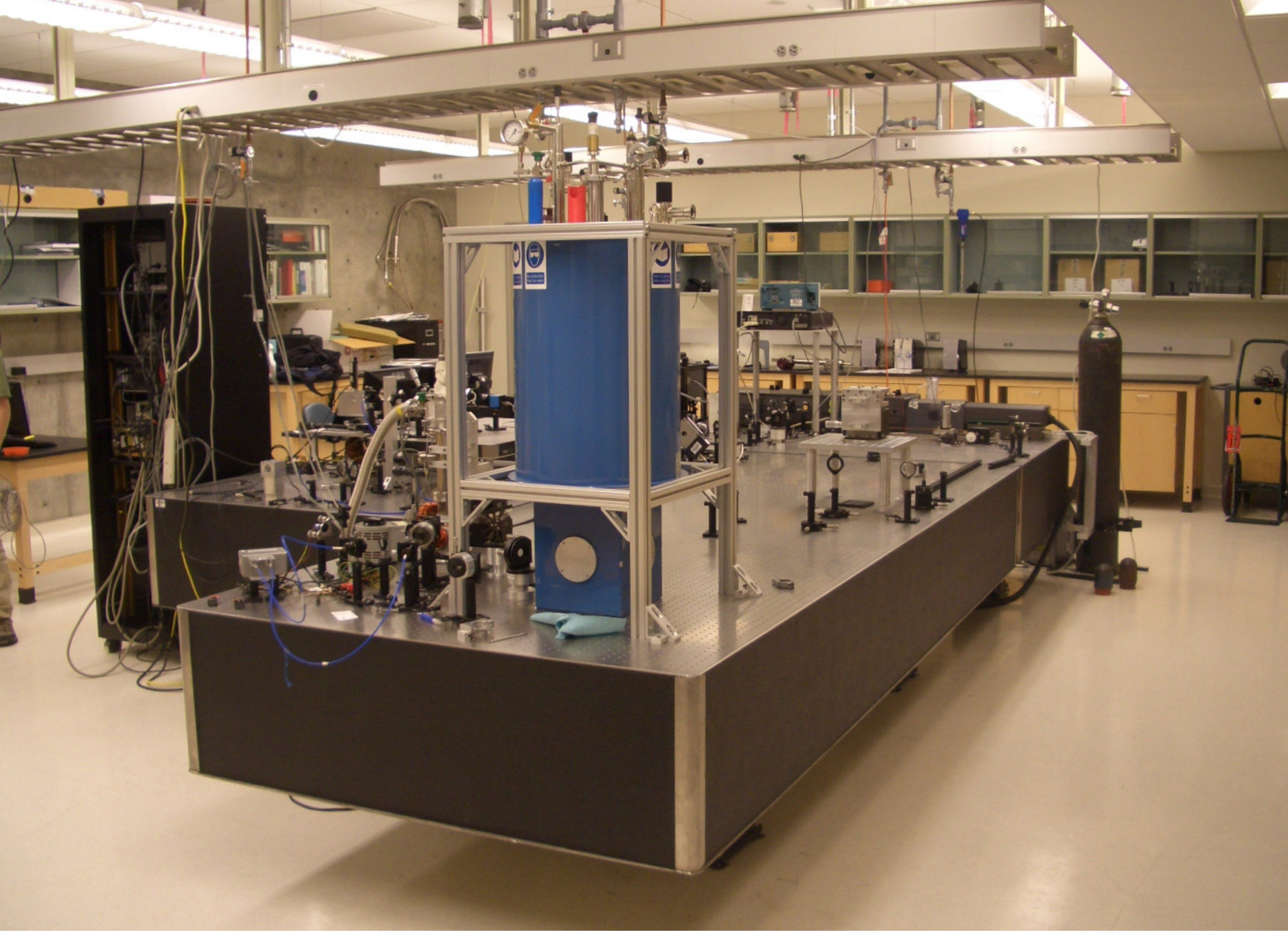
RFD

Master planning and preliminary programming services for K-State College of Agriculture and K-State Extension and Research in support of the University's 2025 Strategic Plan to become a Top 50 Public Research Institution. This study included iterative work sessions with college leadership, the stakeholder committee, and departmental representatives from the Departments of Agricultural Economics; Biological and Agricultural Engineering; Agronomy; Horticulture, Forestry and Recreation; Plant Pathology; Entomology; Animal Science and Industry; and Grain Science and Industry. The study included analysis of College of Agriculture space in seven existing buildings and identified the projected space needs of the College totaling approximately 1.2 million gross SF including a Phase 1 new teaching/research facility of 264,400 GSF and renovation of 36,000 GSF of existing space.



University of California, Riverside, Materials Science & Engineering Building; Riverside, CA
RFD

This 155,855 GSF interdisciplinary research building will house over 38,000 NSF of laboratory space for both the Bourns College of Engineering (BCOE) and the College of Natural and Agricultural Sciences (CNAS). The facility will include instructional and research labs for the Colleges' joint programs in nanotechnology, materials science, synthetic chemistry, bioengineering, and physics. Laboratory support spaces include a core imaging facility, cold rooms, various instrument and equipment rooms, microscopy rooms, a BSL2/3 tissue culture suite, and a 6,000 SF Class 1,000 clean room.



ae



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