SSW ARCHITECTS

SCHREIBER
STARLING
WHITEHEAD

PROGRAMMING & PREDESIGN STUDY OF CRIME LAB OPERATIONS

Washington State Patrol

Project No. 2022-719

Statement of Qualifications

June 23, 2022

SSW ARCHITECTS

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WHITEHEAD

June 23, 2022

Mr. Gary Wendleken
Department of Enterprise Services
Engineering & Architectural Services
1500 Jefferson Street SE
Olympia, WA 98501

RE: Statement of Qualifications: Programming and Predesign Study of Crime Lab Operations
Washington State Patrol
DES Project No. 2022-719

Dear Mr. Wendleken and Members of the Selection Committee:

The Washington State Patrol Forensics Division's Facilities Master Plan paints a compelleing vision and sense of urgency for investment in new and comprehensive forensic science facilities. Having assisted WSP in that master planning effort, we are delighted that WSP intends to submit I-5 Corridor Consolidated Crime Laboratories for initial funding in the 2023-25 capital budget. It is wise to perform the predesign now so as to determine scope supported by an approriate budget. The team you select for the predesign will play an instrumental role setting up this project for success. The main issue is time: you need a team not just fluent in OFM's predesign process, WSP's culture, and best practices for crime lab design, but able to establish initial objectives in September and complete its work prior to the next legislative session.

The team we offer brings the expertise and enthusiasm necessary to meet WSP's vision and goals for a comprehensive forensic sciences facility. SSW Architects has deep knowledge of OFM's predesign process and - through our participation in WSP's Facilities Master Plan - the key drivers of the consolidated crime lab concept. For over 33 years we have provided a full range of A/E services for clients throughout the state. Of particular relevance, we have been selected to perform over four dozen OFM predesigns, including 13 within the past three years. Our experience allows us to move predesign teams forward quickly and efficiently: in 2018 we completed a full predesign for the 65,000 gsf Center for Allied Health Education at Bates Technical College in just seven weeks.

Forensic science facilities demand signficant technical expertise, and to assure the Washington State Patrol benefiits from current best practices and emerging trends in crime lab planning and design we have brought to our team Crime Lab Design. For more than two decades, Crime Lab Design has delivered integrated architectural, engineering, and lab planning services specifically for forensic science facilities throughout the nation and world. We believe our combined team will serve the Washington State Patrol better than we could acting individually.

We meet our commitments and deliver on our promises. You will find SSW and Crime Lab Design genuine team players, applying planning and predesign expertise, talent, and technical skill when and where they will be most effective. Thank you for considering us to be part of your team.

Respectfully,

Stephen J. Starling, AIA
Schreiber Starling Whitehead Architects
Principal

STATE OF WASHINGTON

DEPARTMENT OF ENTERPRISE SERVICES

1500 Jefferson St. SE, Olympia, WA 98501
PO Box 41476, Olympia, WA 98504-1476

Designated Point of Contact for Statement of Qualifications

Point of Contact Name and Title	Stephen J. Starling, Principal		
Firm Name	Schreiber Starling Whitehead Architects P.S.		
Address	901 Fifth Avenue, Suite 3100		
City	Seattle	State WA	Zip 98164
Telephone	206-755-3553	Email	starling@sswarchitects.com

Addresses of multiple office locations of firm (if applicable)

Address	N.A.
City	Phone
Address	
City	Phone
Address	
City	Phone
Address	
City	Phone

Diverse Business Certifications (if applicable)

Certification issued by the Washington State Office of Minority and Women's Business Enterprise (OMWBE)

- ☐ Minority Business Enterprise (MBE)
- ☐ Woman Business Enterprise (WBE)
- ☐ Minority Women Business Enterprise (MWBE)

Certification issued through the Washington State Department of Veteran's Affairs

- ☐ Veteran Owned Business

Certification issued through Washington Electronic Business Solution (WEBS)

- ☒ Small Business Enterprise (SBE)

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PROCLAMATION BY THE GOVERNOR

21-14.1- COVID-19 VACCINATION REQUIREMENT

COVID-19 VACCINATION VERIFICATION DECLARATION FORM

AGENCY AGREEMENTS AND PUBLIC WORKS CONTRACTS

Contract No.:	2022-719
Project Name:	Programming & Predesign Study of Crime Lab Operations for WSP
Consultant or Contractor Name:	Schreiber Starling Whitehead Architects, PS (Type/print full legal name of Consultant or Contractor Firm)

To reduce the spread of COVID-19, Washington state Governor Jay Inslee, pursuant to emergency powers authorized in RCW 43.06.220, issued Proclamation 21-14 – COVID-19 Vaccination Requirement (dated August 9, 2021), as amended by Proclamation 21-14.1 – COVID-19 Vaccination Requirement (dated August 20, 2021) and as may be amended thereafter. The Proclamation requires consultants or contractors who provide goods and services or perform public works with a Washington state agency to ensure that their personnel (including subconsultants and subcontractors) who perform contract activities on-site comply with the COVID-19 vaccination requirements, unless exempted as prescribed by the Proclamation.

I hereby certify, on behalf of the consultant or contractor identified above, as follows (check one):

☒ ***CONSULTANT OR CONTRACTOR HAS IMPLEMENTED A COVID-19 CONTRACTOR VACCINATION VERIFICATION PLAN THAT COMPLIES WITH THE VACCINATION REQUIREMENTS OUTLINED BY PROCLAMATION 21-14.1***.

The consultant or contractor:

- Has reviewed and understands the consultant's or contractor's obligations as set forth in *Proclamation 21-14 – COVID-19 Vaccination Requirement (dated August 9, 2021), as amended by Proclamation 21-14.1 – COVID-19 Vaccination Requirement (dated August 20, 2021);*
- Has implemented and agrees to update a COVID-19 Vaccination Verification Plan for its personnel that complies with Proclamation 21-14.1, and further:
  - Has required its subconsultants and subcontractors at every tier to develop, keep updated, and implement a COVID-19 Vaccination Verification Plan for their personnel, and has the subconsultant or subcontractor to prepare, submit and update (as necessary) a **COVID-19 VACCINATION VERIFICATION DECLARATION FORM(S)** from each subconsultant and subcontractor at every tier for the contract-referenced above, and agrees to make said **COVID-19 VACCINATION VERIFICATION DECLARATION FORM(S)** available for inspection upon the Agency's request; **and/or**
  - Has obtained a copy or visually observed proof of full vaccination against COVID-19 for the consultant's or contractor's personnel and has required its subconsultants and

subcontractors at every tier to do the same for all individuals subject to the vaccination requirement in Proclamation 21-14.1;

- Complies with the requirements for granting disability and religious accommodations for the consultant's or contractor's personnel (including the personnel of subconsultants or subcontractors), who are subject to the vaccination requirement in Proclamation 21-14.1;
- Has operational procedures in place to ensure that any contract activities that occur in person and on-site at Owner/Agency premises will be performed by personnel who are fully vaccinated or properly exempted as required by Proclamation 21-14.1 (including the personnel of its subconsultants or subcontractors), except for those contract activities performed for a short period of time during a given day and where moments of close proximity to others on-site will be fleeting – e.g., a few minutes for deliveries;
- Has operational procedures in place to enable consultant's or contractor's personnel (including subconsultants and subcontractors) who perform contract activities on-site and at Agency premises to provide compliance documentation that such personnel remain in compliance with Proclamation 21-14.1 and all applicable health and safety regulations, standards guidelines, etc.;
- Agrees to provide copies of COVID-19 Vaccination Verification Plans and related records within 24 hours of the Owner/Agency's request, except as may be prohibited by law. The consultant or contractor further agrees to cooperate with any investigation or inquiry by the Owner/Agency pertaining to the compliance of the vaccination requirements as outlined by Proclamation 21-14.1.

OR

☐ ***CONSULTANT OR CONTRACTOR DOES NOT HAVE AND/OR CANNOT IMPLEMENT A COVID-19 CONTRACTOR VACCINATION VERIFICATION PLAN***. The consultant or contractor does not have and/or cannot implement a current COVID-19 Contractor Vaccination Verification Plan, and the consultant or contractor is not able to develop or provide a COVID-19 Contractor Vaccination Verification Plan or documentation demonstrating its personnel meet the COVID-19 vaccination requirements as set forth in Proclamation 21-14.1 and provide the same to the Owner/Agency on or before October 18, 2021. [*Note*: Compliance with Proclamation 21-14.1 is mandatory for on-site contract activities performed by the personnel of consultants or contractors at every tier as prescribed by the Proclamation.]

I hereby certify, under penalty of perjury under the laws of the State of Washington, that the certifications herein are true and correct and that I am authorized to make these certifications on behalf of the firm listed herein.

By: _____
Signature of authorized person

Stephen J. Starling
Print Name of person making certifications

Title: Principal
Title of person signing certificate

Place: Seattle, WA
Print city and state where signed

Date: June 23, 2022

Return this COVID-19 Vaccination Verification Certification to the assigned DES Project Manager.

ARCHITECT-ENGINEER QUALIFICATIONS

1. SOLICITATION NUMBER *(if any)*: 2022-719

PART II - GENERAL QUALIFICATIONS

(If a firm has branch offices, complete for each specific branch office seeking work.)

2a. FIRM (OR BRANCH OFFICE) NAME	3. YEAR ESTABLISHED	4. DUNS NUMBER
Schreiber Starling Whitehead Architects PS	**1987**	**606804466**

2b. STREET	5. OWNERSHIP
901 Fifth Avenue, Suite No. 3100	a. TYPE: **Professional Services Corporation**
2c. CITY: **Seattle** / 2d. STATE: **WA** / 2e. ZIP CODE: **98164**	b. SMALL BUSINESS STATUS: **Small Business**

6a. POINT OF CONTACT NAME AND TITLE	7. NAME OF FIRM *(If block 2a. is a branch office)*
Stephen J. Starling, AIA, Principal	**NA**
6b. TELEPHONE NUMBER: **(206) 682-8300** / 6c. E-MAIL ADDRESS: **starling@sswarchitects.com**	

8a. FORMER FIRM NAME(S) (If any)	8b. YR ESTABLISHED	8c. DUNS NUMBER
Schreiber & Lane Architects / Schreiber Starling & Lane Architects	**NA**	**NA**

9. EMPLOYEES BY DISCIPLINE

a. Function Code	b. Discipline	c. No. of Employees (1) FIRM	c. No. of Employees (2) BRANCH
NA	Administrative	2	NA
06	Architect	9	NA
06	Intern Architect	4	NA
	Other Employees		
	Total	**15**	

10. PROFILE OF FIRM'S EXPERIENCE AND ANNUAL AVERAGE REVENUE FOR LAST 5 YEARS

a. EAS Profile Code	b. Experience	c. Revenue Index Number *(see below)*
029	General Classroom Buildings	2
029/060	Academic Libraries	1
029/058	Academic Laboratories	2
029/079	Campus Master Planning	2
029/089	Renovation of Academic Facilities	5
079	Predesign Studies	4
029/079	Readiness Centers	3
	Five Year Total	**9**

11. ANNUAL AVERAGE PROFESSIONAL SERVICES REVENUES OF FIRM FOR LAST 3 YEARS

(Insert revenue index number shown at right)

a. Federal Work	1
b. Non-Federal Work	7
c. Total Work	**8**

PROFESSIONAL SERVICES REVENUE INDEX NUMBER

1. Less than $100,000
2. $100,00 to less than $250,000
3. $250,000 to less than $500,000
4. $500,000 to less than $1 million
5. $1 million to less than $2 million
6. $2 million to less than $5 million
7. $5 million to less than $10 million
8. $10 million to less than $25 million
9. $25 million to less than $50 million
10. $50 million or greater

12. AUTHORIZED REPRESENTATIVE

The foregoing is a statement of facts.

a. SIGNATURE	c. DATE
	**06/23/2022**

d. NAME AND TITLE

e. Stephen J. Starling, AIA Principal

EXECUTIVE SUMMARY

Introduction

Schreiber Starling Whitehead Architects is committed to improving our community. We do this by creating architecture that reflects our client's vision, respects the fabric of place, and celebrates the beauty of the Pacific Northwest.

Qualifications of Key Personnel

Stephen Starling, AIA - Principal-In-Charge: 34 years' experience, including PIC for predesigns at Shoreline College and the University of Washington, planning team member for the WSDOT Headquarters Building Predesign and WSP Forensics Division Facilities Master Plan , and PIC for the Criminal Justice Training Commission's Capital and Functional Needs Study.

Tam Ly, AIA - Project Manager: 16 years' experience. Roles include Project Manager for predesigns at Shoreline College and Bates Technical College, and Project Architect for the WSP's DNA Lab Remodel.

Monica Verastegui, AIA - Project Architect: 10 years' experience, including Project Manager for the WA Military Department's Joint Force Readiness Center Predesign and Thurston County Readiness Center.

We are joined by a pre-eminent forensic lab planning and design firm Crime Lab Design (CLD) with the following team members:

Ken Mohr, Assoc. AIA - Principal, Senior Forensic Lab Planner/Programmer: Extensive experience in master planning, programming, planning, and design of forensic facilities across the US and internationally.

Jinhee Lee, CDT - Forensic Lab Planner/Programmer/Designer: Extensive experience in laboratory space design and planning for academic, R&D, forensic, and government projects.

Jack Bullo, AIA - Senior Architect/Designer: 30 years' experience on a broad range of project types.

Scott Morgan, PE - Mechanical Engineer: Nearly 20 years' experience in mechanical systems planning, design, and construction.

Mike Iwanski - Electrical Engineer: 20 years' experience in ever aspect of electrical systems planning, design, and construction.

Our reamining team includes subconsultants with expertise in public facilities, including experience at Lower Columbia College.

Relevant Experience

We consider the following projects most relevant to the I-5 Corridor Consolidated Crime Laboratories:

- **Facilities Master Plan** - *WSP Forensics Division (SSW)*
- **Health Science Facility** - *Confidential Asian Government Client (CLD, in process)*
- **Coastal Regional Crime Laboratory** - *Georgia Bureau of Investigation (CLD)*
- **Advanced Forensic Center Phase 1** - *Harris County Institute of Forensic Sciences (CLD)*
- **Criminalistics Laboratory** - *Johnson County, Kansas (CLD)*
- **Regional AIFS Laboratory Replacement** - *King County, Washington (CLD)*
- **Forensic Laboratory** - *Tucson Police Department (CLD)*

Life-Cycle Cost Analysis Experience

With nearly 100 percent of our work being for state agencies, all our major capital projects take life cycle costs into consideration during the pre-design and design phases. Our experience in LCCAs and ELCCAs includes use of OFM's Life Cycle Cost Model (LCCM) and Life Cycle Cost Tool (LCCT).

Sustainable Design Experience

Our commitment to sustainability is exemplified by our body of work, which includes the first LEED-certified State Board of Community and Technical College facility and the state's first LEED Platinum higher education facility. SSW has led the design and construction administration efforts for nine Silver, five Gold, and one Platinum LEED-certified buildings. CLD has designed numerous green-certified facilities including one LEED Platinum laboratory building.

Past Performance

Our record of providing design excellence, on-time and on-budget, explains why 100% of our clients select us for repeat work.

Diverse Business Inclusion Strategies

SSW Architects is a Washington Small Business Enterprise. Our team includes five small and four woman-owned business enterprises. Cumulatively, we anticipate that at 10 percent of the total predesign contract amount will benefit WBE businesses and 50 percent will benefit small businesses.

CLD Experience: Health Sciences Facility, Confidential Government Client (Asia)

INTRODUCTION

Founded in 1987, Schreiber Starling Whitehead Architects are a team of fifteen thoughtful and motivated architects and planners, equipped with proven project delivery methods and supported by technically proficient consultants sharing our core values. As the focus of our practice is entirely in the public sector, we have developed an understanding of the unique project delivery requirements for municipal, state, and federal agencies. Nearly 100 percent of our work is for Washington State government agencies. We work at all scales and offer a full range of architectural services including:

- Capital Funding Request Assistance / Project Request Reports
- Functional Programming
- Project Feasibility / Predesign Studies
- Master Planning
- Building Condition Evaluation
- Site Design
- Building Design
- Renovation
- Restoration (including restoration of historic properties)
- Adaptive Reuse
- Building Envelope Improvement (including roofing replacement)
- Interior Design

Our firm is highly service-oriented. We are proud of the fact that our first clients are still clients, and that with nearly all our clients we enjoy repeat selection (including by the Washington State Patrol). All our work consistently reflects our core values of simplicity, flexibility, and durability, while being responsive to program, context, and environmental sustainability. We are respected for our thoughtful and high-quality predesign studies, as evidenced by our having been selected to perform 13 OFM predesigns within the last three years. Our projects are delivered on time and within budget, attributes most effectively established during the predesign process.

Our process derives its strength through an inclusive and interactive project partnerships with the project stakeholders. For the Crime Lab Operations planning and predesign study we are delighted to feature on our team planners and designers from Crime Lab Design, a firm with unparalleled experience in the planning and design of forensic science facilities. With SSW's knowledge of the OFM predesign process and CLD's international reputation for understanding the unique needs of forensic services stakeholders, we offer the Washington State Patrol a team ready and able to solve the challenges of the I-5 Corridor Consolidated Crime Laboratories.

QUALIFICATIONS OF KEY PERSONNEL

SSW ARCHITECTS

Project Role: Prime Architect - *SBE*

The experience, enthusiasm, and commitment of the talented individuals comprising Schreiber Starling Whitehead Architects are the most valuable resources that we offer our clients. All professional staff at Schreiber Starling Whitehead Architects are graduate architects, some with multiple-discipline educational training. Schreiber Starling Whitehead Architects is a very stable firm with an average staff tenure of eleven years. We do not pursue projects without the assurance each member of our team has sufficient capacity to meet project demands at a high level of performance.

We pursue an integrated team approach to each project, where our role is that of key facilitator, planning and design leader, and advocate for project success. Our process recognizes that each member of the team brings to the project effort individual knowledge and experience that combine to produce results greater than the sum of their parts. Each individual must be allowed to contribute unique concerns and knowledge to the final product in order to achieve true success. The resulting work reflects the shared wisdom, ideas, and talents of our clients and staff.

Our firm is founded on the core belief that the consistent and genuine involvement of our principals is critical to building and maintaining long-term relationships with our clients, and to assuring the most effective outcomes for their projects. Our principals lead all pre-design and planning studies we perform, and remain actively involved in all projects through their completion. Essential to our success is our insistence to maintaining the same individuals on our teams for the life of each project. Our clients and their contractors deserve to know their design team carries a complete knowledge of the project at any point within its execution.

Education:
Bachelor and Master of Architecture,
Montana State University

Registration:
Washington, 1995

Education:
Master of Architecture,
Columbia University

Bachelor in Environmental Design, Univ. of Colorado

Registration:
Washington, 2015

SSW's Crime Lab Operations planning and predesign study includes the following individuals:

Stephen Starling, AIA

Project Role: Principal-in-Charge

Stephen brings his extensive experience as a practical problem solver to his role as PIC. His focus is on client service, with over 34 years experience setting up projects for success. A principal at SSW Architects since 2001, Stephen has successfully managed the planning and design of 15 major new construction projects for state client agencies with similar scope, scale, and complexity to that anticipated for the I-5 Corridor Consolidated Crime Laboratories. During the predesign process Stephen uses his talent to balance project goals, program requirements, schedule, and budget, and he is especially skilled at C-100 development. Stephen is an effective communicator who sees one of his key roles as that of an advocate for success at all elements of a project's creation and delivery. The fact that all the agencies with whom Stephen has worked, continue to seek him for additional projects speaks to his ability to ensure his projects exceed client goals.

STEPHEN'S REPRESENTATIVE EXPERIENCE:

- **Facilities Master Plan** - *Washington State Patrol Forensics Division*
- **Capital and Functional Needs Study** - *Criminal Justice Training Commission*
- **STE(A)M Education Center Predesign** - *Shoreline College*
- **WSDOT Headquarters Building Predesign** - *WSDOT*
- **Miller Hall Predesign** - *University of Washington*

Tam Ly, AIA, LEED AP, Associate

Project Role: Project Manager

On each of his projects, Tam couples knowledgeable planning and a rigorous appreciation for design with energetic oversight of the construction process. Notably, Tam served as Project Manager for our Bates Technical College Medical Mile Health Science Center progressive design-build project, which has strengthened his innate ability to inspire a high degree of performance from contractors. In all his recent projects, Tam's involvement began in predesign and continued through construction completion.

TAM'S REPRESENTATIVE EXPERIENCE:

- **STE(A)M Education Center Predesign** - *Shoreline College*

- **Center for Allied Health Education Predesign** - *Bates Technical College*
- **Samuelson STEM Building**- *Central Washington University*
- **Pacific Tower Renovation**- *Washington Department of Commerce*
- **DNA Lab Remodel** - *Washington State Patrol*
- **North Bend Search & Rescue Maze**- *Washington State Patrol*

Education:
Bachelor of Architecture w/ Minor in Psychology, University of Tennessee, 2008

Registration:
Washington, 2017

Monica Verastegui, AIA, LEED BD+C, Associate

Role: Project Architect

Monica brings to our team an unerring ability to maintain order and enforce design intent on complex projects wih multiple stakeholders. She is highly adept at establishing in-depth understandings of client needs and aspirations, and responding with appropriate architectural solutions. Monica's projects include the recently completed Thurston County Readiness Center in Tumwater, a $35M facility serving the administrative and training needs of National Guard artillery units, and the Joint Force Headquarters Readiness Center (Camp Murray) predesign.

Monica's relevant project experience includes:

- **Joint Force Readiness Center Predesign** - *Washington Military Department*
- **Snohomish Readiness Center** - *Washington Military Department*
- **Thurston County Readiness Center**- *Washington Military Department*

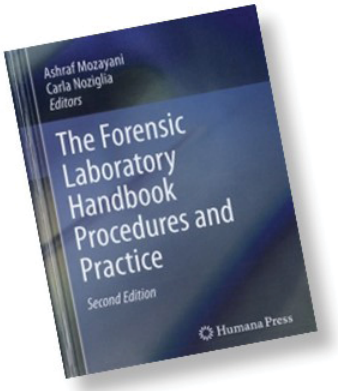
crime lab design

Project Role: Lab Planner

Crime Lab Design (CLD) delivers integrated architectural, engineering, and lab planning services specifically for forensic science facilities. For more than two decades, CLD has successfully addressed the specialized considerations and unique challenges of forensic laboratories, including evidence intake, chain of custody, and storage; proper ventilation and contamination/odor control; changing technologies/methodologies; current accreditation criteria; operational efficiency; security; and health & safety. CLD also advocates environmental benefits, including energy-efficient strategies, as integral parts of the building delivery process.

CLD offers all the A/E services necessary for the complete design of a forensic science facility, structuring its organization to offer a range of specialized professional services— from specific consulting assignments to comprehensive programming, planning, and design assistance— that can be added to a project team to enhance the forensic science design component.

Founding principals Ken Mohr and Lou Hartman (retired) have participated on national committees to develop industry guidelines and have authored more than 100 articles and white papers that address a myriad of relevant topics impacting forensic facilities.



Industry Guidelines:

- "The Forensic Laboratory Handbook Procedures and Practice" Chapter 18
- "Forensic Laboratories: Handbook for Facility Planning, Design, Construction, and Moving" – update to the original 1998 "Blue Book"
- "Latent Print Examination and Human Factors: Improving the Practice through a Systems Approach"
- "Development of a Lean Facility Design Roadmap for Design-Bid-Build Forensic Facilities"
- "Forensic Science Laboratories: Handbook for Facility Planning, Design, Construction, and Relocation" – the "White Book"

The CLD portion of our I-5 Corridor Consolidated Crime Laboratories team includes the following individuals:

Education:
Bachelor of Science, Advanced Technical Studies in Architecture, Southern Illinois University

Founding Member, I²SL (International Institute for Sustainable Laboratories)

Ken Mohr, Assoc. AIA

Project Role: Principal, Senior Forensic Lab Planner/Programmer

Ken brings extensive experience in master planning, programming, planning and design specifically for forensic facilities across the United States and internationally. He has deep knowledge of all forensic science disciplines and methodologies/ technologies. He also has comprehensive understanding of the specialized considerations of these unique facilities such as operational efficiency, security, health & safety, proper ventilation and odor/contamination control, and related accreditation and ISO17025 criteria. Ken is a member of several national committees helping to set guidelines for lab design, is a frequent speaker at forensic science conferences, and is an Editorial Advisory Board member and contributing author for leading industry publications. Ken led the development of the NIST published "Lean Facility Design Roadmap for Design-Bid-Build Forensic Facilities."

KEN'S REPRESENTATIVE EXPERIENCE:

- **Regional AFIS Laboratory Replacement, Renton, WA** - *King County*
- **Coastal Regional Crime Laboratory, Savannah, GA** - *Georgia Bureau of Investigation*
- **Institute of Forensic Sciences Center, Houston, TX** - *Harris County*
- **New Health Sciences Authority Building, Asia** - *Confidential Client*
- **Needs Assessment, Houston, TX** - *Houston Forensic Science Center*
- **Forensic Laboratory & Evidence Warehouse, Scottsdale, AZ** - *Scottsdale Police Dep't*
- **Evidence/Property Warehouse Consolidation Feasibility Study, New York, NY** - *NYC PD*
- **Forensic Science Center Needs Assessment, Houston, TX** - *Houston Police Department*
- **Forensic Laboratory, Corpus Christi, TX** - *Texas Department of Public Safety*
- **Hidalgo County Regional Office & Crime Lab, Weslaco, TX** - *Texas Dep't of Public Safety*
- **Laboratory Expansion & Renovation, Roanoke, VA** - *Virginia Dept. of Forensic Science*
- **Criminalistics Laboratory, Olathe, KS** - *Johnson County Sheriff's Office*
- **Northern Region Consolidated DNA Lab Budget Package, Richmond, CA** - *California Department of Justice*
- **FXD Forensic Laboratory, Ft. Gillem, GA** - *US Army Corps of Engineers - Savannah*
- **Criminal Evidence Headquarters, Kuwait City, Kuwait** - *Kuwait Ministry of Public Work*
- **Police Metro-East Forensic Laboratory, Belleville, IL** - *Illinois State Police*

KEN'S PRESENTATIONS/CONFERENCES:

- "From Super-Sized to Right-Sized" - *I2SL Virtual Education Day, Nov 2020*
- "Navigating Lab Startup and Return to Work" - *Webinar for I2SL St. Louis, June 2020*
- "Designing for a Forensic Crime Lab" - *Webinar for Lab Manager, October 2019*
- "Science on Display" - *College Planning and Management, July 2019*
- "Ready for Robots: Technology-Infused Design" - *AIA National Conference, 2019*
- "Grande Cheese: A Cultured Look at Lab Design" - *AIA St. Louis, March 2019*
- "Identifying Missing Soldiers: DNA Analysis in Asia" - Forensic Magazine, September 2017

Education:
Master of Architecture, Washington University

Bachelor of Arts in Design, Clemson University

Jinhee Lee, CDT

Project Role: Forensic Lab Planner/Programmer/Designer

Equally capable in laboratory design and planning, Jinhee believes you don't need to sacrifice form for function. Laboratories can be both beautiful and functional. Jinhee brings extensive experience in laboratory spaces for academic, R&D, forensic and government projects. She has excellent skills in organizing and coordinating the collaborative efforts of client groups and design professionals to achieve project goals in an efficient and successful process

JINHEE'S REPRESENTATIVE EXPERIENCE:

- **Regional AFIS Laboratory Replacement, Renton, WA** - *King County*
- **Coastal Regional Crime Laboratory, Savannah, GA** - *Georgia Bureau of Investigation*
- **New Health Sciences Authority Building, Asia** - *Confidential Client*
- **Police Metro-East Forensic Laboratory, Belleville, IL** - *Illinois State Police*
- **New Crime Laboratory, Joliet, IL** - *Illinois State Police*
- **DNA Laboratory Renovation, Santa Cruz, CA** - *Santa Cruz Sheriff's Office*

- **Forensic Laboratory and Evidence Storage Facility, Santa Fe, NM** - *New Mexico Dep't of Public Safety*
- **DNA & Forensic Center Phase II, Lagos, Nigeria** - *Lagos State*
- **FXD Forensic Laboratory, Ft. Gillem, GA** - *US Army Corps of Engineers - Savannah*
- **Wallie Howard Jr Center for Forensic Science Renovation, Syracuse, NY** - *Onondaga County, New York*
- **Latent Print Laboratory, Yaphank, NY** - *Suffolk County Police Department*
- **Beaty Public Safety Training & Support Center, Winston-Salem, NC** - *City of Winston-Salem*
- **Crime Lab Expansion Needs Assessment, Fort Lauderdale, FL** - *Broward County Sheriff's Office*
- **Medical Examiner Relocation, Denver, CO** - *Denver Health and Hospital Authority*

JINHEE'S PRESENTATIONS/CONFERENCES:

- "Sustainable Laboratory Design" - *Designing Healthy Environments podcast, Sept 2021*
- "Science on Display" - *College Planning and Management, July 2019*
- "Grande Cheese: A Cultured Look at Lab Design" - *AIA St. Louis Chapter, March 2019*
- "Best Practices/Best Experience for Lab Design" - *AIA NY Chapter*
- "Take the Pain Out: Smart Design to Create Ergonomic Labs" - *Laboratory Design Conference*
- "Identifying Missing Soldiers: DNA Analysis in Asia" - *Forensic Magazine*, September 2017

Education:
Master of Architecture, University of Minnesota

Bachelor of Arts in Architecture, Lawrence Technological University

Registration:
Michigan, Ohio

Jack Bullo, AIA, LEED AP

Project Role: Senior Architect/Designer

With three decades of experience as designer and programmer on a broad variety of project types, Jack Bullo brings exploration, curiosity and accountability to build a partnership that resolves questions and cultivates breakthroughs and innovations. His experience includes site master planning and design of large-scale, multiple building complexes. His creative problem-solving process will provide fresh viewpoints resulting in opportunities for functionally appropriate, aesthetically exciting design solutions.

JACK'S REPRESENTATIVE EXPERIENCE:

- **Police Metro-East Forensic Laboratory, Belleville, IL** - *Illinois State Police*
- **Crime Lab Needs Assessment & Bridging Documents, San Francisco, CA** - *SF PD*
- **Needs Assessment and Bridging Documents - San Francisco, CA** - *SF Medical Examiner*
- **James R. Jordan Foundation International Forensic Science Center, Nairobi, Kenya** - *USDOJ/ICITAP*
- **Forensic Laboratory Needs Assessment & Concept Design, Rabat, Morocco** - *USDOJ/ICITAP*
- **Forensic Science Center Needs Assessment & Design Concept, Lagos, Nigeria** - *Lagos State*
- **Ford Robotics Building, Ann Arbor, MI** - *University of Michigan*
- **Mechanical Engineering Building, Urbana, IL** - *University of Illinois, Urbana-Champaign*
- **Chemistry Annex, Urbana, IL** - *University of Illinois, Urbana-Champaign*
- **H-STEM Engineering & Health Technologies Complex, Houghton, MI** - *Michigan Technological University*
- **Integrative Bioscience Center (IBio), Detroit, MI** - *Wayne State University*
- **Veoneer , Research + Development Center, Southfield, MI** - *Wayne State University*
- **Innovation Center + Regional HQ, Ann Arbor, MI** - *Wacker Chemical*
- **Global Technology Center, St. Joseph, MI** - *Whirlpool*

Education:
Bachelor of Science in Mechanical Engineering, University of Michigan, Dearborn

Registration:
Michigan

Scott Morgan, PE

Project Role: Mechanical Engineer

With almost 20 years of engineering design experience, Scott brings to your project a broad scope of experience from up-front planning, to the final stages of construction. He has been involved with evaluating mechanical system concepts; performing load and sizing calculations for duct and piping systems; integrating with electrical, structural, and architectural design; and laying out construction drawings for fire protection, plumbing and HVAC systems. His goal is to advise the customer in making educated decisions on the types of mechanical systems to be implemented, and to ensure the system is built and operating in the manner designed.

SCOTT'S REPRESENTATIVE EXPERIENCE:

- **Coastal Regional Crime Laboratory, Savannah, GA** - *Georgia Bureau of Investigation*
- **Institute of Forensic Sciences Center, Houston, TX -** *Harris County*
- **Laboratory Expansion + Renovation, Roanoke, VA** - *Virginia Dept. of Forensic Science*
- **Department of Public Safety, Santa Fe, NM** - *State of New Mexico*
- **Criminal Evidence, Scottsdale, AZ** - *Scottsdale Police Department*
- **Criminal Evidence Headquarters, Kuwait City, Kuwait** - *Kuwait Ministry of Public Work*
- **Needs Assessment, Austin, TX -** *Travis County Medical Examiner*
- **Needs Assessment, Houston, TX** - *Houston Forensic Science Center*
- **Forensic Science Center, San Francisco, CA** - *City of San Francisco*
- **Beaty Public Safety Training & Support Center, Winston-Salem, NC** - *City of Winston-Salem*
- **New Criminalistics Laboratory, New Iberia, LA** - *Acadiana*
- **Southwestern Crime Lab, Moultrie, GA** - *Georgia Bureau of Investigation*
- **Ruthven Hall Renovation, Ann Arbor, MI** - *University of Michigan*
- **Ford Robotics Building, Ann Arbor, MI** - *University of Michigan*
- **Detroit Observatory, Ann Arbor, MI** - *University of Michigan*
- **Gross Anatomy Lab, Auburn Hills, MI** - *Oakland University*

Education:
Bachelor of Science in Electrical Engineering, University of Detroit Mercy

Registration:
Michigan

Mike Iwanski, PE

Project Role: Electrical Engineer

Mike brings two decades of experience and expertise to the project team. He has been involved with every aspect and phase of numerous projects, from upfront planning and calculations, field work and coordination with other disciplines, to the completion of construction.

Mike was an electrician for six years prior to prior to beginning his engineering career, and he brings a unique perspective from the builder's side of the construction process. He has designed primary, secondary, and emergency distributions systems; branchpower and lighting for both normal and emergency systems; site lighting; fire alarm systems; communications systems; and electrical requirements associated with technical workplace and lab settings.

MIKES REPRESENTATIVE EXPERIENCE:

- **Coastal Regional Crime Laboratory, Savannah, GA** - *Georgia Bureau of Investigation*
- **Institute of Forensic Sciences Center, Houston, TX -** *Harris County*
- **Laboratory Expansion + Renovation, Roanoke, VA** - *Virginia Dept. of Forensic Science*
- **Department of Public Safety, Santa Fe, NM** - *State of New Mexico*
- **Criminal Evidence, Scottsdale, AZ** - *Scottsdale Police Department*
- **Criminal Evidence Headquarters, Kuwait City, Kuwait** - *Kuwait Ministry of Public Work*
- **Needs Assessment, Houston, TX** - *Houston Forensic Science Center*
- **Medical Examiner Facility, San Diego, CA** - *City of San Diego*
- **Beaty Public Safety Training & Support Center, Winston-Salem, NC** - *City of Winston-Salem*
- **New Criminalistics Laboratory, New Iberia, LA** - *Acadiana*
- **Southwestern Crime Lab, Moultrie, GA** - *Georgia Bureau of Investigation*
- **On-Call Engineering Services, Boston, MA** - *Center for Disease Control*
- **Material Testing Lab, Farmington Hills, MI** - *Nissan Technical Center*

SUPPORTING CONSULTANTS AND DIVERSE BUSINESS INCLUSION STRATEGIES

Developing fully functional projects that integrate well with existing facilities requires an extensive team effort. To assure successful results for the Washington State Patrol, our team will include appropriate specialty consultants sharing our client-focused service ethos. We have developed strong relationships with consultants skilled not just in their areas of specialty but in the partcular demands of community and technical college facilities. With a mind toward improving prospects for diverse business enterprises, we also assess whether a project presents opportunties for nurturing traditionally underrepresented talent or those not yet familiar with the agency.

Schreiber Starling Whitehead assists our clients in meeting their diverse business participation goals. We understand the intrinsic value of project teams that truly represent the diverse voices of our society, and the benefits gained when those voices are empowered. We have collaborated with diverse buisness enterprises since our inception in 1987, and our project teams are well-versed in each others' processes and do not require the team-building efforts too often seen as an inhibitor to diversity. As a

start, from our own perspective as a small business we engage other small businesses on nearly all of our projects. In the process we have forged strong long-term relationships with minority-, women-, and veteran-owned business enterprises, including consultants we have proposed for the I-5 Corridor Consolidated Crime Laboratories team. We also value diversity in our office, as evidenced by our current staff makeup:

- We are 25 percent woman-owned
- Women make up 50 percent of our staff
- 24 percent of our staff represent minority populations

In our role as Prime Architect, SSW aims to exceed the 10 percent MBE, 6 percent WBE, 5 percent veteran-owned business, and 5 percent Washington Small Business goals established by DES for this project. Despite past successes we will not rest on our laurels until diversity becomes quotidian. We actively employ our Diverse Businesses Inclusion Plan to maintain existing relationships and develop new partners. Several features of our Plan are instrumental to its success:

- Assembling marketing materials within the relatively short time period available between the release of RFQs and submittal deadlines can be very difficult for historically underrepresented businesses. We maintain a list of viable diverse business consultants and pre-qualify them as appropriate for the types of projects we pursue. We track upcoming opportunities and reach out to those pre-qualified firms we see as a good fit *prior* to the release of project RFQs to assure they have the time to appropriately and effectively respond.
- As specialists in public sector projects, we help our diverse business consultants that are new to public work to understand the delivery processes that make the project sector unique. We provide assistance in completing the forms and other paperwork required in public contracting.
- Cash flow is extrordinarily important to business success. We promptly invoice consultant work and *always* pay within five days of being paid by our clients.
- We are visible to prospective consultants through participation in networking events, educational programs, and business organizations catering to the interests of diverse businesses. We provide information on our firm and work to generate interest in the diverse business consulting community.

We confirm all registrations through the OMWBE online database of registered firms, the Department of Veteran's Affairs, and WEBS. We report our progress on every state project through B2Gnow.

Jeremiah Bowles, PE, SE
Lund Opsahl - *WBE, SBE*
Project Role: Lead Structural Engineer

The structural engineers of Lund Opsahl have provided structural engineering services for virtually every Washington State agency for decades. Founded in 2012, the company is a continuation of firms owned by each of the principals, Marjorie Lund and Peter Opsahl. It is certified as both woman-owned (WBE) and as a small business (WSB). The firm balances innovative structural design with practical engineering giving clients constructible, cost effective solutions that resolve challenges while meeting project needs.

Lund Opsahl's work includes new building design, existing building evaluations, seismic retrofits, master planning, support for contractor's means and methods taks, and peer reviews. Their experience includes commercial, healthcare, civic, institutional, industrial, and mixed use project types, with many projects meeting LEED goals with innovative green building designs.

Jeremiah Bowles offers 14 years of experience in public and private development, with laboratory facility experience for clients such as the State of Washington and work for private science, technology, and healthcare owners. His strong teaming history with Schreiber Starling Whitehead includes six public projects over the past two years. He consistently pursues a collaborative approach to the creative and efficient use of conventional building materials in developing unique detailing that facilitates and complements challenging architectural designs.

JEREMIAH'S REPRESENTATIVE EXPERIENCE:

- **Center for Design** - *LWTech (w/ SSW)*
- **L&I/WSDA Safety and Health Lab and Training Center, Tumwater, WA** - *L&I/WSDA*
- **Tenant Improvements and Lab Conversion, Seattle, WA** - *Chimera*
- **Health Sciences and Advanced Manufacturing Classroom** - *Shoreline College*
- **Washington State Library and Archives Building, OLympia WA** - *State of Washington*

Laurie Pfarr, PE
LPD Engineering - *WBE, SBE*
Project Role: Lead Civil Engineer

LPD Engineering focuses on delivering economical, functional, and sustainable civil engineering solutions that offer long-term benefits to clients throughout the Puget Sound region. The firm's services include stormwater management; erosion control; water and sewer utilities; site grading, paving, and layout; and access and frontage improvements.

Laurie has provided civil engineering services for 33 years, with a specialty in civil site work. Her design experience includes storm water management; erosion control; water and sanitary sewer utilities; site layout, access and circulation; pavement analysis, repair and replacement; and pedestrian and street improvements. She knows who to go to for information in order to facilitate the permitting process, and has a thorough understanding of jurisdictional review procedures, design requirements, standards, and stormwater code.

LAURIE'S REPRESENTATIVE EXPERIENCE:

- **Fire Station No. 15, Renton, WA** *(w/ SSW)*
- **Dempsey Indoor Practice Facility, Seattle, WA** - *University of Washington*

Jennifer Mundee, PLA
Osborn Consulting - *DBE/WBE, SBE*
Project Role: Landscape Architect

Osborn Consulting creates site designs that are beautiful, inspiring, and cost-effective. Their staff is skilled at collaborating closely with protect teams and identifying client's unique needs. It is Osborn's mission to design spaces with multiple uses, providing rich experiences that support the social environment and level of quality needed for today's public works.

Jennifer is an urban designer and landscape architect with 25 years of experience designing and managing public projects, providing site design and analysis, leading coordination with architects and engineers, creating conceptual design graphics for community meetings and collaboration, and creatively including sustainable practices as a baseline in all projects. She excels at collaborating with multiple disciplines, using her drawing skills and background in architecture, fabrication, and landscape architecture, ultimately interpreting and expressing these varied points of view in her designs.

JENNIFER'S REPRESENTATIVE EXPERIENCE:

- **Health Sciences Center** - *Renton Technical College (w/ SSW)*
- **STE(A)M Education Center** (including Predesign) - *Shoreline Community College (w/ SSW)*

Trish Drew, CPE, LEED AP
DCW Cost Management - *WBE, SBE*
Role: Independent Cost Estimating

DCW Cost Management is an independent third-party cost consultancy with offices in Seattle and Portland. Because they are embedded in the regional construction community, DCW deliver costs that are reflective of the market and are detailed using a clear, efficient construction development perspective. Services include early cost advice for informed decision making. Typically, their cost estimates fall within 5 percent of the low bid amounts on projects and often within 3 percent of the bid.

Trish brings over 30 years of construction industry experience to our team, with over 20 years in construction management. Beginning in predesign, Trish works with the team to provide "live" budgetary feedback on design concepts, thus significantly reducing missteps. She has a thorough working knowledge of labor efficiencies, market fluctuations, project budgeting, competitive estimating, and contract negotiation.

TRISH'S REPRESENTATIVE EXPERIENCE:

- **STE(A)M Education Center** - *Shoreline Community College (w/ SSW)*
- **Snohomish Readiness Center** - *Washington Military Department (w/ SSW)*

"We are privileged to be working with a firm (Schreiber Starling Whitehead)with this manner of integrity. Our projects benefit greatly by your participation in them"

- Lee Knawa
Former Project Manager
DES

Our Philosophy and its Application: A Dynamic and Inclusive Process

No matter the scale, a successful public project is best achieved through a dynamic and inclusive process. This process identifies and meets the goals, needs, and aspirations of the building users while respecting the project's social and environmental context. It is a dynamic process in that it evolves as the project evolves, and inclusive in that all interested parties are encouraged to participate. We view our primary role in this process as that of facilitator. We have structured our team to offer credibility and expertise with your constituency.

We also recognize that in the public project environment, the number of individuals and groups having a stake in the successful outcome can be quite large. SSW is experienced in working with committees, building users, facilities staff, administrators, and the larger public. To assure that all stakeholders are involved, we employ open, interactive workshops during both planning and design. We focus on a broad range of issues including program and space requirements, inter-functional and intra-functional relationships, systems requirements, LEED implementation, and how best to meet the needs of historically underserved populations. In each of these workshops our team will include facilitators best able to draw out critical information. The raw information gathered in these workshops will be distilled into a comprehensive, inclusive, and nuanced program that both informs and disciplines the subsequent design process.

In addition to strong leadership and technical skill we bring an attitude of openness to all our projects. It is our first and continuing task as planners and designers to listen to, and be receptive to, the wealth of ideas that stakeholders bring forth. We know some of those ideas are clear and ready for development. We also understand that others may need a supportive forum, an alternative perspective, or a fast and accurate technical response to take shape and be ready for use. As with our expectations for the A/E team, our philosophy recognizes that each stakeholder brings to the project individual knowledge and experience which combines with the contributions of others to produce results far greater than the sum of individual contributions.

Topics Unique to Predesigns

A central purpose of the OFM predesign process is the investigation of alternate solutions. During the predesign workshops we will apply our planning skills to brainstorm possible solutions to a wide range of project issues. Between workshops our team will analyze each alternate solution to determine its appropriateness and the degree to which it meets the project goals and program needs. The results of our analyses will be brought back to the stakeholders for verification. As the alternates are further developed, costs and implementation schedules will be developed for each. At this point the college will have considerable material to enable an informed selection of the preferred alternate, which will receive detailed attention as our planning team prepares the final report.

Too often in state-funded projects it is evident once the predesign process begins that the budget expectations are inadequate to realize all facility and equipment needs. Realized later during design, this typically means that the users' needs are compromised or the ability to maximize the program benefit of the funding spent is lost. We believe that the key to assuring that this doesn't happen is set in the predesign programing process. Our role in this process is to assist the stakeholders to complete work left unresolved from prior planning work and to identify potentially changed conditions. We then ally current "real-world" knowledge of the construction market and public funding process to confirm project goals are achievable. The budget verification analysis we perform at this time goes deeper than simply applying published area costs to the program space total. We look at the program, site development, systems performance, design, and schedule needs, and identify those that are unique. We then ensure that the budget identifies and addresses the cost impact of each unique issue.

The implementation schedule for both design and construction will be a key element to study during the predesign process. We will develop scenarios that take into account various outcomes for legislative appropriation, municipal land use constraints, permitting, and code

updates to help the Washington State Patrol decide upon a project schedule that best balances these factors and assures the highest use of funding on what really matters - development of I-5 Corridor Consolidated Crime Laboratories that best meet WSP needs now and in the future.

Topics Unique to Crime Labs

Success with the Crime Lab Operations planning and predesign study will stem not just from SSW's expertise in the OFM predesign process but with the skills brought to our team by Crime Lab Design. When it comes to crime labs, CFD's philosophy begins with *listening*: there are no cookie-cutter results…the solution will be based on the input of WSP stakeholders. There is no "one-size-fits-all" facility solution for forensic laboratory functions. Each crime lab is unique in the type and quantity of cases worked as well as the clientele the facility serves. Operations and procedures are influenced by various legal and practical considerations. The size of the community being served and the nature of criminal activity place varying demands on scientific evaluations. Understanding these issues along with image and work environment goals informs the design process that captures best practices from other past facility designs and then shapes those into a unique solution, all based on your input.

Your RFQ gives you the option of extending the services of our pre-design team through project completion. If DES and WSP choose to exercise this option, Schreiber Starling Whitehead Architects and Crime Lab Design will base our design process on the conviction that quality design lies in creating spaces that integrate into their community, producing spaces in harmony with their social, functional, and environmental context. The aesthetic of our projects is as varied as their function and location, and our only style is the expression of use and user vision—not of changing fashion.

Approach:

Crime Lab Design's approach, aligned with SSW Architect's approach previously described, is rooted heavily in collaboration and interaction but specifically tailored to the needs of forensic services operations. It recognizes that your planning team must bring technical and economic points of view to the planning and design process. Our work plan simultaneously examines and evaluates your facilities (place), the laboratory and administrative functions (process) that take place within and between those facilities, and the forensic criminalists and public officials (people) who undertake those functions. Our team's goal is to achieve cost savings and maintain levels of service and institutional integrity by optimizing the relationships among people, processes, and place. CFD will add value to our team and the WSP's I-5 Corridor Consolidated Crime Laboratories through:

"Our project benefited immensely from a collaborative approach with Crime Lab Design in each phase. CLD consistently demonstrated their dedication to quality while balancing the perspectives of various client groups, including the forensic science user's and associated government oversight agencies. This combined with CLD's unquestionable expertise as leaders in the forensic facility industry provided us a comprehensive approach. By integrating the engineering and lab planning efforts, we have seen a well-rounded design program developed."

– Cydne Holt, PhD, Lab Director
San Francisco Police Department

Objectivity: – a system of asking the right questions, listening, and documenting your answers.

- Review, refine, and test current facility improvement ideas and present new ideas and options for consideration without preconceiving solutions.

Collaboration: – building consensus through the involvement of key stakeholders.

- Separate wants from needs objectively, and achieve consensus and buy-in for the agreed upon course of action.
- Identify all cost elements and drivers as well as cost avoidance opportunities through integrated cost modeling/estimating from the outset of activities.

Analysis: – a macro-level process that breaks the problem into its parts.

- Ensure that the State of Washington gets the best solution for the right price.

Plan, Act, Evaluate: simple criteria used to evaluate performance and make necessary course corrections. Given an unlimited budget and timetable it would be easy to generate a spectacular solution, but it is a challenge and opportunity to create a successful solution from a cost-sensitive point of view. Working with all project stakeholders to achieve more from less is where the creativity and talent of our team and approach will distinguish itself.

Understanding

CLD understands a great deal about forensic facilities and processes. For decades, it has successfully addressed the specialized considerations and unique challenges of forensic facilities including: current accreditation criteria; changing technologies/methodologies; operational ef-

ficiency; security; health & safety; proper contamination/ventilation/odor control; and evidence intake, chain of custody, and storage. CLD has served many United States and international clients. Their portfolio includes planning, design, and construction phase services of forensic facilities totaling 10 million square feet and more than $2 billion in construction.

Every forensic facility presents a unique set of design challenges. Rapid advances in technology and practice have accelerated the need to upgrade these scientifically demanding environments. Crime Lab Design has planned many forensic facilities bringing real-life lessons learned, insight and creativity to your project.

Optimizing and Enhancing the Design of Forensic Facilities
With integrated engineering, architectural, and lab planning expertise, Crime Lab Design can help you address your specific facility challenges while also solving the overarching and critical issues of health and safety, accreditation, energy efficiency, and cost.

By integrating lab planning and engineering, CLD brings a comprehensive understanding of the challenges facing forensic science and how these issues have and will continue to impact operations and shape facilities. CLD's team members will work with you to address the issues, such as the following, with a goal to maintain levels of service and institutional integrity, achieve cost savings, and help make WSP's facility one of the safest in the United States.

Right Size Now
It is important that we start out right-sizing the project for today. Working with national accreditation standards (such as ASCLD/LAB [now ANAB], NAME, and International Organization for Standardization), we discuss with you your current caseload and staffing and help predict where that caseload and staffing requirement may go into the future. These metrics provide an accurate picture of a facility that meets your processes and protocols now and help determine future growth needs.

Forensic facilities vary in terms of services offered and caseload volume, so we start by evaluating your project in terms of services, volume, and staffing. We will determine your anticipated volume growth and compare it to similar organizations so that we have a guide for right-sizing your project. We will also evaluate the proposed program using guidelines from ASCLD. Working with DCW Cost Management, CLD will use its in-house forensic services benchmarking process to confirm that your project meets the ranges needed for your future laboratory needs.

Accommodate Inevitable Change
Incredible advancements in technology continue to enable forensic labs to be more effective in supporting the law enforcement community. These rapid changes in technology as well as methodology impact the way laboratories operate. The challenge is to be able to effectively manage change over time. Even some of the newest labs being built today have not incorporated features that allow them to be modified, rearranged, and updated with a minimum amount of disruption and expense. CLD's modular design approach provides future flexibility and adaptability, growth potential, and cost-effective future construction. CLD will work closely with you to determine an appropriate future planning horizon and provide the level of potential change and expansion required for your vision.

Accommodating the constant increase in both automated equipment and new diagnostic techniques are critical to planning forensic facilities. As more processes become automated, CLD prepare you for the integration of robotic equipment and automation in all lab areas. Not only are CLD's experts seeing these changes in chemistry but also in DNA analysis. Our team will develop a flexible lab approach and a planning strategy that works for both manual processes and automated robots. We will plan the lab so that it initially accommodates small instrumentation and wet benches and can be easily adapted to large analyzers and robots—all without disrupting adjacent areas. We will also plan for specialty environments, including molecular diagnostics and PCR labs, which are becoming more prevalent as a diagnostic tool. CLD will address your automated equipment strategies and future diagnostic protocols beginning in programming and concept development.

"CLD's expertise is evident from the start of programming through all aspects of the design process. CLD's ability to listen carefully and respond to specific laboratory needs and concerns provides a foundation of trust with clients and end-users. This trust has proved extremely beneficial to the project team as we moved through design, construction, start-up, and owner move-in."

–David Bradley
Vice President
D.L. Withers Construction

Emergency Preparedness

During programming and concept planning, CLD will discuss your goals regarding preparing for and responding to emergencies such as terrorism, natural disasters, and increased caseload caused by incidents. By accreditation standards, an emergency plan for mass casualty must be in place for many facilities to be accredited. This plan may have impact on the programming, planning, and construction of your facility. It is our responsibility to work with you to understand your emergency preparedness plans and be able to translate that into the supporting architecture and infrastructure required. We will ensure that the emergency lab services and protocols are integrated with your preparedness plans, so that processes for identifying and handling biologic and chemical hazards are accommodated. This is a process with which we are very familiar and have a lot of experience.

Accreditation

Forensic agencies are being challenged with greater scrutiny by a legal community that is growing more knowledgeable about forensic science. Consequently, these agencies should seek accreditation by industry accepted standards in order to help them respond to these challenges. CLD is extremely well-versed with the requirements set forth in the ASCLD/LAB–ANAB and other accreditation standards. In fact, they have published articles in "Forensic Magazine" about the impact of accreditation standards on the built environment. With CLD on our team, we will assure that your facility works within the requirements set forth by these accreditation bodies.

Quality of Work Environment

The quality of your work environment is important not only for the physical well-being of your staff, it also has an impact on their ability to provide outstanding services and support to the community. For example, bringing natural daylight into the lab area aids the criminalist's perception of true coloration during the analysis. We will optimize available natural daylighting.

Quality of life issues also greatly affect recruitment, quality control, and retention of lab professionals. Today's laboratories often have difficulty in finding and hiring qualified personnel, especially as the labs move toward more automation and require more highly trained technicians. Access to natural light and exterior views goes a long way to recruiting and retaining laboratory personnel.

Workflows/Security and Access/Supply, Storage, Waste

WSP's I-5 Corridor Consolidated Crime Laboratories will house various distinct groups with very unique requirements in regards to security, access, workflows and movement of supplies, storage, and waste—critical to the upkeep and running of such a facility. Security and chain-of-custody issues are top of mind in these facilities. Several layers of access need to be addressed starting with the public lobby and ending with any high containment laboratories. These facilities tend to have complex functions of public, semi-private, private, and maintenance space requirements. For example, circulation should be looked at to minimize any public access directly into laboratory space, while still providing a potential tour route. Maintenance should ideally be done in such a way that keeps disruptions within the labs to a minimum. These can be accomplished best by working closely with the users, facility people, and the environmental health & safety officers.

There are several fundamental issues in analytical/testing/diagnostic and forensic examination facilities that greatly influence the planning and design of laboratory spaces and their support areas. These have changed over the past two decades to include automated equipment as a primary driver for process planning and laboratory design. Today's analytical/testing laboratories must accommodate both high throughput equipment and time-sensitive, quality results. CLD uses interactive flow diagrams to plan both the work and specimen flow within the lab, but also to integrate deliveries, supply distribution, storage, and biohazard waste collection. CLD uses LEAN principals in developing the diagram to correctly address these issues from the start and provide a strategy for efficient flow in your lab operations.

CLD Experience: Coastal Regional Crime Laboratory, Georgia Bureau of Investigation

It is imperative to have a cohesive team of specialists working together to understand each of these unique characteristics and to make decisions that are right for each group. Our team comprises the requisite experts ready to work collaboratively with all functions in order to make this building a successful part of your law enforcement for many years to come.

Integrated Mechanical and Electrical Systems

The mechanical and electrical systems that support the forensic operations must deliver on several different levels. In addition to occupant comfort, the proper engineering of HVAC systems help maintain environments that protect the health and safety of building occupants and are critical for odor and biosafety control. These systems are usually energy intensive and complex. Reliability of the systems is important and the ability to adapt to change fundamental. You will benefit from CLD's own team of engineers that bring deep understanding of forensic facilities which are unique, process-driven operations that present different challenges for the utility systems.

The process-driven, instrumentation-intensive environment of a forensic controlled substance lab and DNA lab for instance requires electrical systems that deliver high-quality, reliable, uninterrupted clean power to the lab bench. Forensic lab operations also need other specialized utilities such as high purity water, compressed gases, instrument grade compressed air supply, vacuum systems, and process cooling water. The containment of potentially infectious biological samples requires systems designed to provide both primary and secondary containment barriers, protecting occupants both inside and outside of the laboratory environment.

Forensic operations, which include the processing of unknown substances and potentially infectious materials and biological samples, present significant health and odor control issues. Reliable management of the air systems in these areas is an utmost critical design and operations issue. The proper design of ventilation systems to effectively remove objectionable odors and to prevent their migration within the building is a fundamental necessary feature.

Reliability is the heart of engineering and technology systems. Proper maintenance provisions and appropriate system redundancy are very important for system reliability and allow preventative maintenance to occur appropriately, minimizing the impact on operations.

The ventilation and instrument intensive nature of forensic laboratories create an energy intensive environment that can be minimized by carefully selected strategies to reduce energy consumption. These strategies can include the use of high performance low flow fume hoods, energy recovery systems, hybrid air handling systems, chilled beams, and many other system and operation strategies. It is possible to reduce energy consumption by up to 50 percent by taking full advantage of available technologies.

High-Performance Fume Hoods

High-performance, low-flow fume hoods have made great advancements in their ability to maintain containment in laboratories. The energy consumption from a typical hood where air that has already been conditioned for the room is taken through the fume hood and immediately exhausted at a rate of 100 feet per minute adds up to immense energy loss to a facility over the course of a year. The use of low-flow hoods with the decreased rate of flow down to 60 feet per minute has a tremendous impact on the overall operational cost over the life of the facility. For CLD thinking along these lines is second nature. One of the reason's SSW's Angst Hall was the first higher education facility in the state to receive LEED Platinum certification came from the high efficiency the design team gained through innovative fume hood design in the facilitiy's chemistry labs.

CLD Experience: Regional AIFS Laboratory Replacement, King Co. WA

Human Centered Design

This strategy creates spaces that meet the physical, psychological, and behavioral needs of your crime laboratory staff and the way they do their work. Human centered design can enhance your staff's ability to successfully complete their tasks while maintaining the integrity of evidence and forensic analyses and minimizing accidents and injuries. Crime Lab Design considers many quality of life aspects pertaining to ergonomics, universal design, security, and learning and creativity when determining the optimal physical environment for your forensic staff—

lighting, acoustics, temperature and humidity, lab bench configuration, furnishings, equipment installation, lab flexibility, way-finding, access control and surveillance, hazard protection, control over distractions, and access to external and internal natural settings.

As an example, the use of natural light within a facility either by windows or skylights can greatly reduce eyestrain particularly in the color-dependent analysis processes such as drug identification. Additionally, the use of natural light within spaces makes the laboratory environment a tool for employee recruitment and retention—well lit, attractive spaces make employees happier and make their tasks more enjoyable leading to increased productivity and decreased error levels.

Laboratory HVAC Systems

In addition to occupant comfort, laboratory HVAC systems maintain environments to protect the health and safety of the building occupants. These systems are usually energy intensive and complex. Crime Lab Design focuses on making sure these systems are not overly complex and take advantage of cost-effective energy conservation features. For example, on the Johnson County Criminalists Laboratory they were able to reduce energy consumption by over 50 percent, with strategies that in some cases cost less than the approaches usually considered. For instance, their use of a hybrid lab-office air system significantly reduces energy consumption, simplifies maintenance, improves air quality in office areas, and costs less to install. CLD thinks creatively!

Lean Six-Sigma Methodology

Crime Lab Design has a thorough understanding of forensic science functions and how efficiencies can be achieved. Ken Mohr was part of the Technical Working Group that established a Lean Facility Design Roadmap for developing forensic facilities.

From the pressures of high-throughput processing to the demands of short turn-around times and quality control, planning for analytical/testing labs is a complex exercise with many moving parts, but also opportunities. The specific drivers for planning analytical labs include volume, efficiency, automation, and flexibility. Our team's approach will address these and other drivers from the very beginning of your project. CLD will investigate flow, both within the lab as well as to-and-from the lab, ensuring that all laboratory operations are carefully considered and planning anticipates not only space and staffing, but time, client constituencies, and agency operations. Traditional planning of three dimensional lab space is more complex when all laboratory activities are introduced. CLD specializes in these types of labs and will lead you through the planning process.

Equipment Solutions

CLD anticipates and coordinates laboratory equipment details early in the process and through construction. While equipment customizes your laboratory spaces, it also drives requirements for ventilation, power, and utilities. Equipment planning services range from inventory of existing equipment that you intend to relocate, to programming, planning, selecting, and estimating costs of laboratory and major scientific equipment.

Existing Equipment Analysis: Your existing forensic lab equipment will fall into one of several categories: (1) relocate, (2) remain or (3) recycle. End users should be part of the process and via a tagging system (green, yellow, and red stickers) that visually identifies if the piece is moving, staying in the existing space, or being discarded. An inventory sheet will document the existing equipment, as well as information such as room number, location, manufacturer, model number, dimensions, and age. The system remains in place to facilitate the move management process. CLD will interview your forensic section managers regarding equipment needs and preferences. A questionnaire can also be helpful to gather information prior to interviews.

Infrastructure – The design of the mechanical, electrical and plumbing systems should be coordinated and reviewed for compatibility with planned equipment. New and existing equipment is documented, leading to an Equipment Matrix used throughout the procurement and installation process.

Procurement Strategies: CLD will review and/or develop purchasing strategies and requirements, including specifications, for all new fixed (OFCI or OFVI) and architecturally significant equipment (ASE). These will be decribed within the project specifications for bidding clarity.

CLD Experience: Criminalistics Laboratory, Johnson County, Kansas

Additional support is sometimes needed for special terms and conditions related to delivery, installation, warranty, and training. In addition, strategies for maximizing vendor discounts, and cost saving measures such as specifying refurbished equipment are employed.

Bids will be reviewed for compliance with the specifications, and information for final DOA sign-off will be provided. Prior to awarding fixed equipment substitutions, bids are reviewed to compare vendors.

Installation Oversight – Fixed equipment is the primary focus during construction. Installation oversight can be equipment requiring installation or rough-ins/final connections by the contractor. Services include:

- Placement coordination
- Timing for large equipment
- Recalibration requirements
- Liaison with providers (i.e., gas)

Document Production and Quality Assurance Control

Providing clear, concise, and complete information to the contractor is the primary goal of our QA/QC process. SSW and CLD continually strive to achieve quality construction documents that are both biddable and constructible. Biddable documents ensure that all bidders can clearly understand the scope of the project and that the contract price will be competitive. Constructible documents ensure that project costs will not escalate through the construction phase due to errors or omissions.

The foundation of our quality assurance/quality control program rests on assembling teams staffed with individuals experienced and qualified in the appropriate building type and size of project. As is expected of any A/E firm performing work with state agencies, our QA/QC processes have been formalized in our Quality Management Plan and are rigorously followed on all our projects. For document quality control, at each design milestone we employ our checklist-based QA/QC review system to identify inconsistencies and errors so that they may be corrected prior to final printing. This review is performed by our QA/QC reviewer, who for an independent perspective is unaffiliated with the production team.

A measure of the success of SSW's quality control program is the low incidence of change orders encountered during construction resulting from document errors or inconsistencies. ***We have averaged less than two percent changes attributed to design errors/omissions on all projects completed to date.***

Budget Management

The goal of project cost management is to provide a fully-functional facility within the budget parameters established by our clients. A critical role of pre-design is to demonstrate that the project as conceived is achievable - i.e. that scope and cost are aligned - or if not to put in place measures necessary to establish that alignment. To that end our team's independent cost consultant, knowledgeable of the local construction economy, will provide concept-level estimates during the early design process.

Leveraging their subject matter expertise, specialty subconsultants on our projects provide detailed estimates for incorporation into the overall project budget. A critical measure of sucess for the Crime Lab Operations predesign is the accuracy of laboratory cost estimates. Crime Lab Design has developed SABER (Space and Budget Estimating Resource) to guide its estimating efforts. SABER can help WSP develop a sound space and budget projection for early-stage facility planning. The SABER tool is about the metrics. These basic metrics significantly affect the *budget* and are the same for every forensic facility, but it's the *data* that makes your facility unique. SABER identifies and calculates critical space and budget assumptions based on your unique data and presents them in a clear spreadsheet format—a summary program of need. This resource can be used by itself or as a companion to a comprehensive Needs Assessment and covers a number of topics:

SSW Experience: Forensics Division Facilities Master Plan, WSP

Planning horizon targets the facility's growth potential (10, 15 or 20 years out) and not the life of the building. Adding credibility comes from aligning this target against reliable documents such as a recent population study, an annual operations report, or budget forecasts.

Forensic services are the services you would like to offer or need to prepare for in the future; e.g., mass casualty, toxicology, and DNA. It could also be representative of services that are being phased out such as trace or questioned documents.

Staff capacity is the number of staff that would be working in each section and should represent growth projections or result of potential consolidation.

Space is split into two groups (variable and fixed). Variable numbers are based on a portion of a planning module for a specific scientific function then multiplied against the number of staff. Office space is treated the same way, also multiplied against the number of staff. Fixed numbers are based on the scientific function regardless of how many people might be working in the section.

Net-to-gross ratio is a space factor to cover the difference between paint to paint area and the space needed to support the net square feet. Additional space that helps make up gross square feet include: toilets, circulation, and building infrastructure. The ratio percentage for laboratory space can range from 50 to 65 percent depending on the function of the lab. A lower ratio yields more gross square footage. The ratio percentage for office space can range from 60 to 75 percent depending on the configuration of office space. A higher ratio yields less gross square footage.

Construction cost is the dollars per GSF to build the project. This number varies from region to region across the United States and will vary between new construction and renovation. This tool does work for renovation projects.

Soft costs are represented by a percentage of the construction cost. These costs are commonly associated with: design services, contingencies, and other fees that apply to your project. This percentage will also vary from region to region and the type of construction.

Equipment/instrument cost is a place holder for providing or relocating equipment necessary for the scientific work. It is derived from our database of equipment/instrument into a dollar figure per staff member then multiplied by the number of staff per section.

Schedule

Schreiber Starling Whitehead Architects's culture places great importance on schedule compliance on all projects. We maintain vigilant project management through a task-based scheduling system to ensure that contract schedules are met or bettered. The specific actions necessary to accomplish project tasks are identified, assigned to team members, and given maximum duration and intermediate review timelines. Regular team meetings permit the management team to forecast possible shortfalls and to commit additional staff and team resources to meet the schedule milestones.

The time available for informing state policymakers of WSP's needs for the I-5 Corridor is tight. We understand sufficient information to plan for property acquisition will be needed in September 2022, and the predesign must be complete and approved by OFM before the legislature meets in January 2023. This is a daunting timeline for any project, made more critical due to the high level of design and construction activity enjoyed in the Puget Sound region. Your planning team must both understand the state's budgeting process *and be able to deliver*. With SSW's prior work with the Washington State Patrol - most recently represented by the Fornesics Division Facilities Master Plan of 2021 - and Crime Lab Design's expertise in forensic services operations and appropriate planning/design responses, our team is uniquely capable of meeting WSP's schedule expectations.

CLD Experience: Hertzberg-Davis Forensic Science Center, Los Angeles (left) and Medical Examiner and Forensic Center, San Diego (left)

Our team has successfully designed and certified the following LEED buildings:

Platinum

- Laura Angst Hall - *Skagit Valley College (SSW)*
- Criminalistics Laboratory - *Johnson County, KS Sheriff (CLD)*

Gold

- Self Learning Commons - *Whatcom CC (SSW)*
- Charles Lewis Hall - *Skagit Valley College (SSW)*
- Fire Station 28 - *Seattle Fire Department (SSW)*
- Fire Station 38 - *Seattle Fire Department (SSW)*
- 66th TAC Readiness Center - *WA Military Dep't (SSW)*
- Forensic Laboratory - *Tucson Police Department (CLD)*
- Crime Lab - *San Francisco Forensic Services Division (CLD)*
- Office of the Chief Medical Examiner - *San Francisco (CLD)*

Silver

- Center for Allied Health Education - *Bates TC (SSW)*
- Lindbloom Student Center - *Green River College (SSW)*
- Allied Health Building - *LWTech (SSW)*
- Salish Hall - *Green River College (SSW)*
- Corporate Education Center - *LWTech (SSW)*
- *Missile Assembly Building #3 - US Navy (SSW)*
- Wood Technology Center - *Seattle Central (SSW)*
- Colin Building Addition - *South Seattle College (SSW)*
- Seattle Maritime Academy - *Seattle Central (SSW)*
- Medical Examiner & Forensic Center - *San Diego (CLD)*
- Hertzberg-Davis Forensic Science Center - *Los Angeles (CLD)*
- Forensic Laboratory - *Scottsdale AZ Police Department (CLD)*
- Metro-East Forensic Laboratory - *Illinois State Police (CLD)*
- Public Safety Services Campus - *City of Philadelphia (CLD)*
- Scientific Laboratory Building - *New Mexica (CLD)*

We realize that the most important challenge facing the architectural profession today is the design and construction of buildings that promote environmental and occupant health. Buildings in the United States consume 14% of all potable water, 54% of all energy directly or indirectly, and more specifically, 73% of all electricity. The most sustainable thing any of us can do is to create successful, long-lasting buildings that support flexible use, embrace natural processes, and require the least effort and cost to maintain. For our firm, it's not just about receiving the points; whether LEED, Net Zero, or any other sustainability measuring tool, sustainable design is at the core of our practice.

To achieve this through the current version of LEED (Version 4.1) will take a concerted effort. To meet Executive Order 18-01for Net Zero-capable facilities will take even greater commitment, beginning at the predesign level. Many green features carry costs which must be considered when solidifying the overall project scope. Common responses we suggest be given attention include connections to nature through access to fresh air, daylight, and views; attention to occupant comfort (ergonomics and thermal, olfactory, and noise/vibration control); tight building envelopes; use of materials with minimized negative environmental impacts; highly efficient mechanical and electrical systems; on-site power generation; and preference for shared over dedicated spaces. Our site designs typically include drought-tolerant and native plantings, light fixtures that do not impact adjoining properties, and electric vehicle charging stations. All features must be tested through energy modelling software as part of any zero-energy strategy.

LEED: Leadership in Energy and Environmental Design

Schreiber Starling Whitehead Architects has long been a member of the United States Green Building Council and we have several LEED-accredited professionals on our team to guide the design of our projects along LEED standards. Capital funding of public projects can never be characterized as plentiful, and it is frequently difficult to achieve mandated LEED certification levels. We are very proud of our ability to achieve and exceed sustainable building goals within available budgets. We also have direct experience in developing grant proposals and rebates for on-site energy generation. For Skagit Valley College's Laura Angst Hall we wrote a grant application to OFM which resulted in receiving a $360,000 grant for a 30-kw photovoltaic system. This system had sufficient impact for Angst Hall to be the first LEED Platinum-certified higher education facility in the state.

LEED and Crime Labs

Through numerous LEED certified projects, Crime Lab Design has established our commitment to innovative approaches to building systems and envelope design for maximum

energy performance and environmental safety. Even when LEED certification is not a goal, CLD's117 in-house accredited professionals bring extensive knowledge of sustainable materials and strategies to projects.

Sustainable design is good engineering practice and a likely life-cycle cost benefit to the project. Energy performance is a priority. Because the energy demands of today's laboratory facilities are great, they present numerous cost-justified opportunities for implementation of technology to reduce energy consumption. These opportunities need careful evaluation to ensure that issues related to safety and operational integrity are not compromised. CLD's approach is to work together to identify appropriate options and opportunities. CLD then tests the cost effectiveness of applying that technology to the project on a life-cycle basis. If it makes sense both economically and operationally, CLD then recommends incorporating it into the design.

Counterclockwise from bottom right: Sustainable design features at Skagit Valley College's Laura Angst Hall include high-efficiency fume hoods, raingardens incorporated into SVC's Environmental Conservation curriculum, the melding of interior and exterior spaces, and a photovoltaic array (SSW experience). Lower left: Metro-East Forensics Lab, Illinois State Police (CLD experience)

LIFE CYCLE COST ANALYSIS EXPERIENCE

SSW Architects, Crime Lab Design, and DCW each have direct and extensive experience providing life-cycle and energy life-cycle cost analyses for our projects, including use of OFM's Life Cycle Cost Model (LCCM) and Life Cycle Cost Tool (LCCT) processes. We use these processes to compare alternate solutions and support the preferred solution.

An iceberg aptly illustrates the total costs of facility ownership. While initial development costs are visible and well-understood, over 30 years of a building's life the present value of maintenance, operations, and utility costs is nearly as great as the initial project costs. As we explore design alternatives, we will develop estimates of the total cost of the building, from initial construction through operation/maintenance. By comparing life cycle costs for various design configurations, we will explore trade-offs between low initial costs and long-term cost savings, identify the most cost-effective system for a given use, and determine how long it will take for a specific system to pay back its incremental cost.

Operations & Maintenance Cost Benchmarking

At the start of the Schematic Design phase of the Consolidated Crime Lab, we will develop a "benchmark budget" with design and construction cost estimates based upon the approved C-100 and data from past projects. Concurrently we will work with the Washington State Patrol staff to set an O&M benchmark using their historical operations and maintenance data from existing campus buildings for those components that apply to this project.

Comparative Analysis

Continuing further into Schematic Design and then Design Development, our team will make increasingly detailed decisions about the final design for the building, including mechanical, electrical, structural, telecommunications, and plumbing systems. During this period, the we will conduct a series of analyses comparing the total costs of various building system options.

Study Categories

Our team will assess the value to the project of up to 14 possible life cycle cost (LCC) comparisons in six general categories. Within each category, the specific comparisons involve options for addressing the same need. The following are examples of the 14 comparison areas we use. Specific systems or options considered will vary with the type, scale, and intended use of the building.

Energy Systems

1. Centrally connected vs. stand-alone systems
2. Alternative energy systems (e.g., solar photovoltaics, solar thermal, fuel cells)
3. Equipment options for stand-alone systems

Mechanical Systems

4. Air distribution systems (e.g., variable volume vs. constant volume, overhead vs. underfloor)
5. Water distribution systems (e.g., various piping systems and pumping options)

Electrical Systems

6. Indoor lighting sources and controls
7. Outdoor lighting sources and controls
8. Distribution (e.g., transformers, buss ducts, cable trays)

Building Envelope

9. Skin and insulation options
10. Roofing systems (various materials and insulation methods)
11. Glazing, daylighting, and shading options

Siting/Massing

12. Solar orientation, floor-to-floor height, and overall building height
13. Landscape, irrigation, and hardscape options

Structural Systems

14. Systems/materials selection (e.g., steel vs. concrete, cast-in-place vs. pre-cast)

RELEVANT EXPERIENCE

Pre-Design Experience

Schreiber Starling Whitehead Architects has successfully completed dozens of pre-designs for public agencies. These pre-designs have been instrumental in legislative appropriations exceeding $550,000,000. Our deep knowledge of the state's OFM project budget/funding process allows us to effectively package pre-design documents for rapid OFM review and approval. All our submitted pre-design reports have resulted in fully-funded projects. In just the past three years we have been involved in 13 pre-design studies:

- Joint Force Headquarters Readiness Center - *Washington Military Department (in process)*
- Health Sciences Center - *Renton Technical College (in process)*
- STE(A)M Education Center - *Shoreline Community College*
- Baker Hall Replacement - *Everett Community College*
- Miller Hall Renovation Pre-Design - *University of Washington*
- Renovation & Expansion of the Anacortes Readiness Center - *Washington Military Department*
- Center for Design - *Lake Washington Institute of Technology*
- Transportation Building Preservation, Olympia - *WSDOT*
- Life Skills Training Center - *Washington State School for the Blind*
- Academic & Physical Education Building - *Center for Deaf and Hard of Hearing Youth*
- Center for Science and Technology/CC4 - *Cascadia College*
- Center for Allied Health Education - *Bates Technical College*
- North County - *Clark College*

Specific to forensic facilities, over the past 10 years Schreiber Starling Whitehead has performed several remodels of existing WSP crime labs. The scale and reach of the I-5 Corridor Consolidated Crime Laboratories is far beyond these projects, although the experience gained and relationships developed are important. The following pages depict Crime Lab Design projects directly applicable to the Consolidated Crime Lab:

HEALTH SCIENCES FACILITY

Confidential Government Client

Asia

Delivery:	*Confidential*
Target MACC:	*$255,800,000 million (estimated)*
Final Cost:	*N/A*
Architect:	*Confidential*
Architect:	*Confidential*

This project will consolidate and integrate the government's health sciences functions into a single new facility to create a modern environment that captures efficiencies and promotes recruiting and retaining the best staff. The client protects and advances national health and safety through specialized agencies: Center for Drug Evaluation, Institute of Science and Forensic Medicine, National Pharmaceutical Administration, and Product Regulation. In addition, the client is responsible for testing and storage of the nation's blood supply for both daily and national emergency preparedness.

Bringing together these functions started with a rigorous program validation and Lean Six Sigma process that ultimately reduced the building size by 130,000 square feet. The new building will comprise 28 percent laboratories requiring a high level of security for:

Illicit Drugs	Crime Scene Investigation
DNA Biology	Medical Examiner autopsy, morgue and support
Analytical Toxicology	Food Safety
Trace Evidence	Pharmaceutical and Health Products Testing
Firearms and Toolmarks	Chemical Metrology
Questioned Documents	Shared lab support

The building is being designed to meet the nation's sustainable certification and includes enough elevated green space to offset the building's footprint.

CLD's services include program validation, laboratory and MEP planning and design, and equipment planning through construction.

COASTAL REGIONAL CRIME LABORATORY

Georgia Bureau of Investigation

Savannah, Georgia

Duration: *December 2015 – July 2019*

Construction $: *$34,500,000 million*

Architect: *JMA Architecture*

Contact: *Ross Butler*
Laboratory Manager
Georgia Bureau of Investigation
tel.: 912.921.5874
e-mail: ross.butler@gbi.ga.gov

George Herrin, PhD, Deputy Director (retired)
Georgia Bureau of Investigation
tel.: 404.270.8072
e-mail: george.herrin@gbi.ga.gov

This new state-of-the-art 62,000 square feet forensic center replaces the oldest lab facility in the GBI regional system and will serve 24 counties in southeast Georgia. The facility design proactively addresses the growing demand for forensic services in the southeastern region of the state and comprises forensic labs and lab support, medical examiner space and support, evidence control and storage, and office and shared space.

Through a collaborative approach, CLD applied Lean Six Sigma principals to create efficient and organized workflows capable of meeting changes in forensic science capabilities and criminal justice expectations over the next three decades. Forensic services include DNA/forensic biology, firearms (including test and firing range), drug chemistry, toxicology, and pathology/autopsy along with associates support and evidence control.

The project is designed with energy efficient and sustainable construction features with a goal of earning the highest level in the Georgia Peach Green Building Rating System.

CLD's services included programming, laboratory and equipment planning through CA, MEP design through DD, and CD peer review.

ADVANCED FORENSIC CENTER PHASE 1

Harris County Institute of Forensic Sciences

Houston, Texas

Duration: *December 2012 – November 2016*

Construction $: *$61,000,000 million*

Architect: *Page*

Contact: *Roger Kahn, PhD*

Lab Director (retired)
Harris Co. Institute of Forensic Sciences
tel.: 614.403.6666
e-mail: m.roger.kahn@gmail.com

The HCIFS offers two distinct forensic services for the community: the Medical Examiner and the Crime Laboratory. The comprehensive planning process for the new Advanced Forensic Center, which houses both services, began in 2007 and involved experts from business, medical, laboratory, and scientific fields. The resulting design culminates in an integrated use of space flowing seamlessly between clinical, laboratory, administrative, public, and teaching/training areas.

The master plan for the Forensic Center includes two phases:

- Phase 1 – a nine-story, 210,000-square-foot tower. The tower houses approximately 150,000 square feet of laboratory, morgue, administrative, public, and teaching/training spaces with 60,000 square feet of unfinished shell space available for expansion.
- Phase 2 – a four-story building for future expansion to accommodate the growing needs of the county, as well as the agencies and families served by the Institute.

Forensic science disciplines include: morgue, medical investigations,

pathology, anthropology, histology, forensic imaging, drug chemistry, trace evidence, firearms, toxicology, quality management, evidence management, administration, records, business office, shared space, and facility management. CLD also worked with Dr. Kahn on the County's Regional Forensic Genetics Laboratory, a 15,000-sf fast-track renovation of a Nabisco Products Factory completed in 2012 and which will move from their current location in 2027.

The Forensic Center is targeting LEED certification and features energy-efficient HVAC and ventilation systems.

CLD's services included a needs assessment, programming, laboratory and MEP planning and design, and equipment planning.

CRIMINALISTICS LABORATORY

Johnson County

Olathe, Kansas

Duration: *July 2009 – November 2012*

Construction $: *$22,800,000 million*

Architect: *PGAV*

Contact: *Chad Foster*
Architect/Project Management Specialist
tel.: 913.481.6371
e-mail: chad.c.foster@gmail.com

The new 62,500 gsf crime lab houses distinct forensic science labs—biology/DNA, firearms/toolmarks, latent prints, controlled substance, trace analysis, digital/multimedia, and crime scene investigation. Additional space allows for expansion of computer forensics and instrumentation. Other amenities include: wireless capability, expanded crime scene processing and evidence handling areas, separate section evidence storage areas, and a large multipurpose training room.

Crime Scene Investigation provides 24/7 operations in the building without compromising security for the remainder of the laboratory. The unit can process up to three vehicles simultaneously in high bays that accommodate lifting large vehicles.

The building is the first forensic lab in the country to reach LEED 2.0 Platinum certification. Energy efficient and sustainable design features include: ground source heat pumps, energy recovery system, photovoltaic (solar) panels, state-of-the-art fume hood technology, sustainably forested materials for casework, daylighting controls, and LED technology (including specialized LED evidence exam lighting).

The laboratory, located adjacent to the County Communications Center forming a secure campus, serves all law enforcement agencies in Johnson County as well as state and federal agencies and is ISO/IEC17025 accredited.

CLD's services included program validation, laboratory planning and design, full MEP engineering services through CA, and lab equipment planning.

REGIONAL AIFS LABORATORY REPLACEMENT

King County, Washington

Renton, Washington

Duration: *July 2016 – October 2018*
Construction $: *$6,200,000 million*
Architect: *Buffalo Design*
Contact: *Michele Triplett, CLPE*
Forensic Operations Manager, King Co.
tel.: 206.263.2728
michele.triplett@kingcounty.gov

Only minor modifications to mechanical and electrical systems have been made since the current latent processing laboratory was constructed in 2000. Providing service to 37 of the 39 cities and unincorporated King County, the current facility is outdated and undersized for the program's workload and impedes efficiency, employee safety, and evidence concerns. The AFIS Laboratory will be relocated to renovated space on the first floor of the King County Black River Building.

This project provides appropriate space to secure and safely manage, examine, and process evidence for developing latent prints using physical, chemical and alternate light source discovery methods. In addition to lab space, tenant improvements provide conference rooms, training facilities for examiners and law enforcement personnel, secure long-term evidence storage and space for anticipated future growth. A single-story addition will provide secure space for vehicles and oversized evidence that cannot be processed in the main lab.

The Sheriff's Department Photography Lab will also be collocated with the AFIS Lab to enable sharing of staff and equipment. This lab includes studio, processing, administrative, and evidence storage space.

The project has been registered for LEED for Commercial Interiors Certification. CLD's services included needs assessment including existing conditions and programming (2014), laboratory planning, and MEP engineering consulting.

FORENSIC LABORATORY

Tucson Police Department

Tucson, Arizona

Duration: *July 2016 – October 2018*
Duration: *November 2008 – October 2011*
Construction $: *$22,000,000 million*
Architect: *Welman Sperides Mickelberg*
Contact: *Mark Huntzinger*
Forensic Div. Administrator
City of Tucson Police Department
tel.: 520.791.4499 x1440
email: mark.huntzinger@tucsonaz.gov

Tucson's new ASCLD/LAB-International accredited Forensic Laboratory features controlled substances, forensic biology/DNA, latent prints, trace chemicals, arson, explosives, firearms (including a firing range), toxicology, computer/electronic media forensics, evidence control, quality assurance, and administration. The space is planned for future growth with enough stations for 133 staff members by the year 2025.

Between the office and laboratory wings is a day-lit atrium with crisscrossing bridges, clerestory windows, and an open monumental stair. The atrium serves as a space for spontaneous collaboration. The entries into the lab and office suites are highlighted by dynamic colorful porticos that include displays of the science activities and on-demand flat screen monitors with video presentations of the lab's activities.

The laboratory is located adjacent to the existing Westside Police Service Center. Future police facilities are expected to share the site, so a master planning component was necessary to appropriately site the building.

The 62,377 gsf facility is LEED Gold certified. Sustainable design features include rainwater collection for irrigation, large roof overhangs and light shelves, low-flow plumbing fixtures, walls and roofs with high thermal resistance and optimal radiant energy acceptance or rejection, and spectrally selective films for glazing and skylights.

CLD's services included needs assessment and master plan, program of requirements, lab planning and equipment planning through CA, MEP engineering through DD, and CD peer review.