

Nationwide IDIQ Contracts for 3D Laser Scanning and BIM Services



GSA
Building Information Modeling

GSA National BIM Program

www.gsa.gov/bim



GSA's National 3D-4D-BIM Program

GSA Office of Design and Construction established the National 3D-4D-BIM Program in 2003. The primary mission of the National 3D-4D-BIM Program is to promote value-added digital visualization, simulation, and optimization technologies to increase quality and efficiency in developing and managing GSA's capital assets throughout the entire project lifecycle.

The following are highlights of the GSA National 3D-4D-BIM Program:

- Establishing policy to phase in 3D, 4D, and BIM adoption for all major projects
- Providing expert support and assessment for ongoing capital projects to incorporate 3D, 4D, and BIM technologies
- Assessing industry readiness and technology maturity
- Developing solicitation and contractual language for 3D-4D-BIM service
- Partnering with BIM vendors, professional associations, open standard organizations, and academic/research institutions
- Building a community of GSA BIM Champions and an internal knowledge portal
- Publishing GSA BIM Guide Series
 - Series 01: 3D-4D-BIM Overview
 - Series 02: Spatial Program Validation
 - Series 03: 3D Laser Scanning
 - Series 04: 4D Phasing
 - Series 05: Energy Performance and Operations
 - Series 06: Circulation and Security Validation
 - Series 07: Building Elements
 - Series 08: Facility Management

IDIQ Contracts for 3D Laser Scanning Services and BIM Services

GSA has recently awarded two separate IDIQ contracts for 3D Laser Scanning Services and BIM Services. While both IDIQ contracts have the same scope of work, the **3D Laser Scanning IDIQ contract** focuses on using 3D scanning technologies to document as-built conditions. The **BIM Services IDIQ contract** provide a wide array of BIM modeling and analysis services, including: spatial program validation, clash detection, 4D modeling, and energy analysis. Please contact your Regional BIM Champion or ODC if you are unsure which contract to use.

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IDIQ Scope of Services

- 1) **Professional BIM Modeling Services including, but not limited to:**
 - a) Architectural
 - b) Structural
 - c) MEP
 - d) Civil
- 2) **Transform 2D drawings and develop BIMs**
- 3) **BIM-based analysis & applications including, but not limited to:**
 - a) BIM-based model checking to validate GSA requirements
 - b) Visualization/ Virtual Mock-ups
 - c) Spatial Program Validation
 - d) 3D-Laser Scanning
 - i) Exterior & Interior 3D-Laser Scanning
 - ii) Development of BIMs from Point Cloud Data
 - e) 4D Modeling
 - i) Schedule communication
 - ii) Constructability analysis
 - iii) Traffic Studies
 - f) Building Performance Analysis
 - i) Energy Analysis
 - ii) Day lighting Analysis
 - iii) Computational Fluid Dynamics Analysis
 - g) Quantity Take-Offs/Cost Analysis/Cost Estimating
 - h) Clash Detection
 - i) Commissioning/Facility & Operations Management
 - j) Circulation and Security Analysis
 - k) Early Concept Design Analysis
 - l) Structural Analysis/Blast Analysis
 - m) Emergency Management Analysis
 - n) Fabrication
- 4) **Integration of multiple BIMs, analyses, and softwares**
- 5) **Development and maintenance of design and construction documentation in BIM throughout the project lifecycle**
- 6) **BIM Implementation Support, including:**
 - a) Development of BIM assessment and project implementation plans
 - b) Support to project design and construction firms
 - c) Review of BIM models & analysis completed by other service providers
 - d) Development of Best Practice Guidance, Case Studies, Procedures and Training Manuals
Development of benchmarking and measurement standards and programs
- 7) **BIM Training, including:**
 - a) Software specific training
 - b) Best Practices
- 8) **Development of long- & short-term implementation strategies, including:**
 - a) Technology selection
 - b) BIM transition planning
 - c) Guidance and management of BIM hardware and software capabilities
- 9) **Development of new software functionalities to support BIM-based project implementation and management**
- 10) **Project Design is not included under this procurement**



Zone Assignments – BIM Services

BIM Contractors	Beck Technology, LTD GS 00P 09 CY D 0283	Applied Software GS 00P 09 CY D 0284	DPR Construction, Inc. GS 00P 09 CY D 0285	Ghafari Associates GS 00P 09 CY D 0286	Kling Stubbins GS 00P 09 CY D 0288	HNTB Corporation GS 00P 09 CY D 0289	ONUJA Inc. GS 00P 09 CY D 0290	View by View, Inc. GS 00P 09 CY D 0291	Kristine Fallon Assoc. GS 00P 09 CY D 0292
Page # of Contract Information	7	11	15	19	23	27	31	35	39
List of Zones									
Central Office Washington, DC	X	X	X	X	X	X	X	X	X
Zone A									
Region 1: New England Region 2: Northeast & Caribbean, New York, NY Region 3: Mid-Atlanta, Philadelphia, PA Region 11: National Capital, Washington, DC	X	X	X	X	X	X	X	X	
Zone B									
Region 4: Southeast-Sunbelt, Atlanta, GA Region 5: Great Lakes, Chicago, IL Region 6: The Heartland, Kansas City, MO Region 7: Greater Southwest, Fort Worth, TX	X	X		X		X	X	X	X
Zone C									
Region 8: Rocky Mountain, Denver Region 9: Pacific Rim, San Francisco, CA Region 10: Northwest/Arctic, Auburn, WA	X		X	X	X	X	X	X	



Zone Assignments – 3D Laser Scanning Services

3D Laser Scanning Contractors	Stantec Consulting GS 00P 09 CY D 0296	Quantapoint, Inc GS 00P 09 CY D 0297	Pharos Consulting, LLC GS 00P 09 CY D 0298	Coign Asset Metrics GS 00P 09 CY D 0299	Beck Technology, LTD GS 00P 09 CY D 0300	Architectural Resource Consultants GS 00P 09 CY D 0301
Page # of Contract Information	43	47	51	55	59	61
List of Zones						
Central Office Washington, DC	X	X	X	X	X	X
Zone A						
Region 1: New England Region 2: Northeast & Caribbean, New York, NY Region 3: Mid-Atlanta, Philadelphia, PA Region 11: National Capital, Washington, DC	X	X	X	X	X	
Zone B						
Region 4: Southeast-Sunbelt, Atlanta, GA Region 5: Great Lakes, Chicago, IL Region 6: The Heartland, Kansas City, MO Region 7: Greater Southwest, Fort Worth, TX	X	X		X		
Zone C						
Region 8: Rocky Mountain, Denver Region 9: Pacific Rim, San Francisco, CA Region 10: Northwest/Arctic, Auburn, WA	X	X		X		X



Interested in using this IDIQ?

Contact your BIM Champion and ODC

We can provide:

- Advice and guidance
- SOW language
- Review proposals, progress, deliverables

Region	Champion	Title / Division	Email Address
1 New England	Frederick Amey	Architect	frederick.amey@gsa.gov
	Lori Anderson	Architect	lori.anderson@gsa.gov
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	John Maurer	General Engineer, Technical Services Branch	john.maurer@gsa.gov
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	Paul Rojko	Technical Services Branch Chief	paul.rojko@gsa.gov
	Mike Williamson	Architect	michael.williamson@gsa.gov
2 Northeast and Caribbean	Bob Granato	Branch Chief, Design and Construction Division	robert.granato@gsa.gov
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3 Mid Atlantic	Stephen Devito	Project Technology Specialist	stephen.devito@gsa.gov
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6 Heartland	John Brumley	Project Manager	john.brumley@gsa.gov
	Wayne Copeland	CAD-EDM Specialist	wayne.copeland@gsa.gov
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7 Greater Southwest	David Cornelison	Architect	david.cornelison@gsa.gov
	Peter Koenig	CIFM Program Manager	peter.koenig@gsa.gov
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8 Rocky Mountain	David Beach	Project Manager	david.beach@gsa.gov
9 Pacific Rim	Richard Fallejo	Southern California/Hawaii Project Executive Branch	richard.fallejo@gsa.gov
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BECK

Beck Technology
Innovation in All Dimensions

BECK

Beck Technology

Innovation in All Dimensions

Beck Technology, Ltd. was born from The Beck Group, a firm that combines architecture, construction, technology, and development to deliver a uniquely efficient integrated project process. Beck Technology is unique among industry firms because of the larger company with which we are affiliated. Our understanding of the entire building process, from design through construction, and most importantly the integration of technology is part of the cultural fabric of our company.

Beck has consistently invested millions of dollars each year in the development of various technology pursuits that have ranged from proprietary BIM authoring software to custom Revit content and specialized applications for major US corporations such as AT&T. Building on this foundation, Beck Technology has used its internal knowledge base to excel at integrating innovative, technical, and domain specific solutions into easy to use technology.

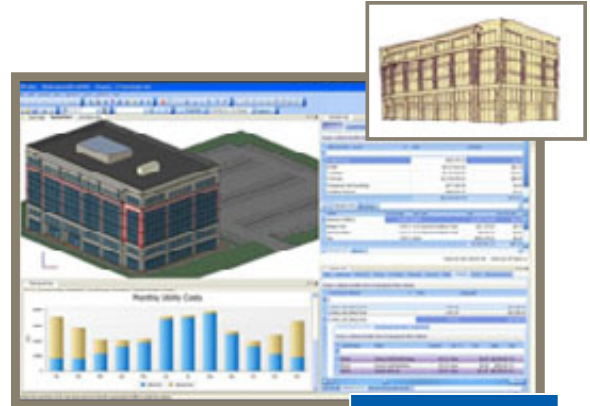
As the developer of proprietary BIM authoring software, we have solid experience with DProfiler, a conceptual cost modeling BIM application, and can provide expertise in multiple other applications. As part of our typical BIM Platform we utilize Laser Scanning, Revit, Innovaya, and Navisworks on a daily basis and continue to explore other applications.

Beck Technology has assembled a highly skilled team of partners for the IDIQ services. With each member of our team we provide the ability perform in any areas that are covered by the BIM services. For example, partners such as **CADForce Inc., R.L. Goodson, Inc., Simpson, Gumpertz, & Heger** and **Purdy McGuire**, we can provide disciplinary expertise in the areas of BIM modeling services, transformation of 2D to BIM, integration of BIMs, analyses, maintenance of BIM documentation throughout the project life cycle, implementation support, training, and the development of long and short term strategies.

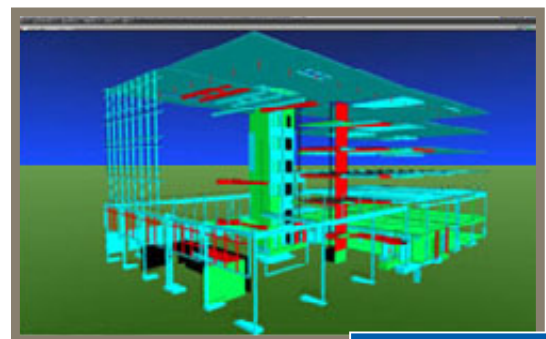
With partners such as **Digital Alchemy, Onuma, Solibri, Bohannon Huston, Apex**, and **Langan Engineers**, we can expand our services and bring additional strengths to areas such as BIM based analysis, Laser Scanning, and the development of new software functionalities.

DPROFILER

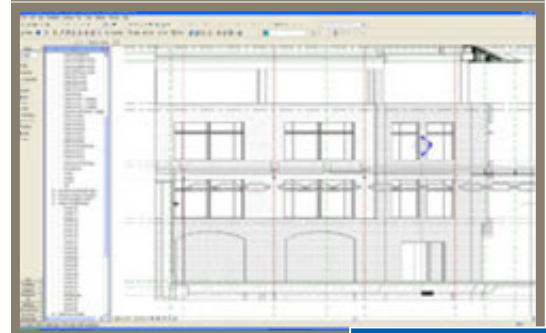
Beck Technology's portfolio includes DProfiler, a "macro building information cost modeling" software. This product was released commercially in 2007 and provides users the ability to create accurate conceptual cost estimates using simple 3D models connected in real-time to a cost database. Other developments within the DProfiler application include a conceptual energy analysis module, Timberline integration module, the DProfiler Management Studio and a 3D site module; all tools that enable better information to be developed earlier, to strengthen the preconstruction process.



DProfiler Concept 1



Innovaya



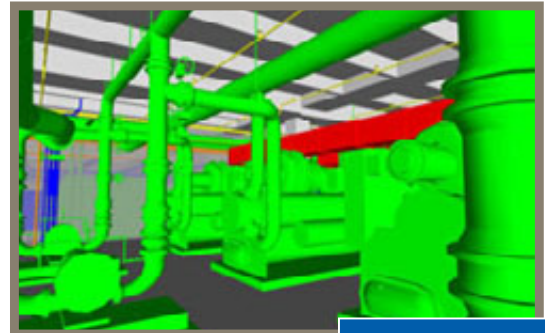
Revit Models

DProfiler is our preferred application to help project teams visualize cost and analyze any design alternatives during the planning and conceptual design process. DProfiler was developed specifically to address the communication gap between conceptual design and conceptual estimating, and provides the quickest and most effective means available to bring a project team together to prevent this gap from hamstringing a project from the start.



REVIT

Revit is a BIM software that focuses on the needs of the design profession. Revit is frequently used to generate the original building information models on a project, and is designed to streamline the process of document creation and management from the model.



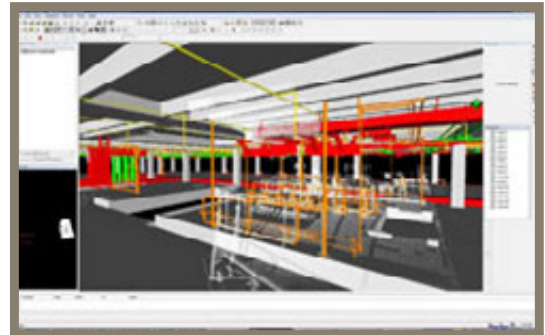
NavisWorks

INNOVAYA

Innovaya is used to link the Revit file to a Timberline (our estimating software) cost database. The program establishes links between certain types of objects and their associated cost assemblies allowing for automatic quantification and takeoff of those objects. The program then populates a standard Timberline estimate with this information. These mappings are also preserved so that any changes in the Revit model can be quickly accounted for in the cost estimate.

NavisWorks

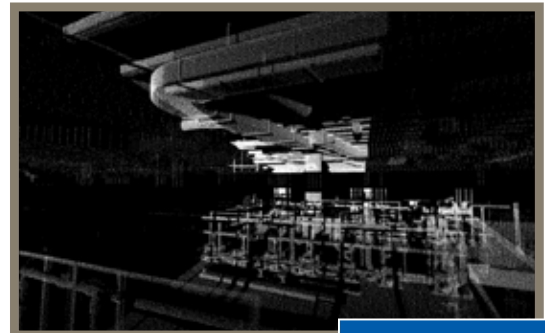
NavisWorks is a software package targeted toward coordination between contractors and subcontractors and operates at a shop-drawing level of detail. It is basically a 3-D model navigation tool with the added ability to check whether any objects are intersecting within a certain range of each other thus generating a clash. We have had great success with using NavisWorks for clash detection on multiple projects.



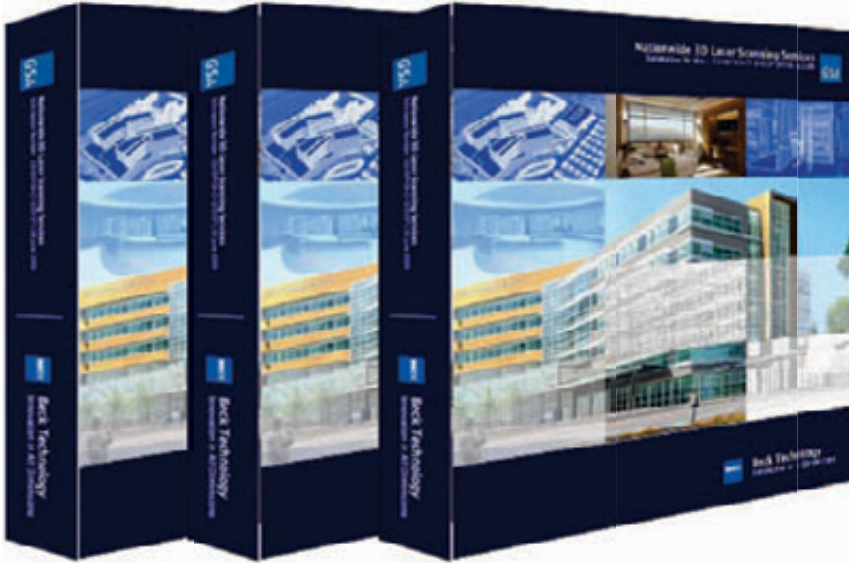
NavisWorks also provides the ability to link these objects to tasks in a project schedule for 3-D scheduling visualization. This allows us to create the building virtually prior to construction, enabling us to prevent a majority of field related problems on a project. Utilizing BIM technologies to create 3D models helps to visually communicate our team's approach to phasing, scheduling, and field execution of the project.

Laser Scanning

A Laser Scanner is basically an automated total station capable of capturing millions of measurements in a short period of time. The scanner uses a laser to measure distance to a surface, and then based on the azimuth and rotation of the scanner body it triangulates the position of the point in three dimensional space. These distance measurements are made using either time of flight lasers, or phase based lasers. Some scanners also incorporate a camera so that pictures can be used to color the point cloud or to provide additional deliverables.



Laser Scanning



GSA NATIONAL BIM SERVICES IDIQ CONTRACT

In 2009, the U.S. General Services Administration (GSA) awarded Beck's Technology Group (Beck Technology, Ltd.) with an indefinite delivery indefinite quantity (IDIQ) contract. Beck was awarded the contract to provide building information modeling (BIM), laser scanning, and related technology services across 11 regions of the United States.

As part of the scope, Beck Technology and a team of ten subconsultants can perform a wide variety of BIM Services from traditional BIM modeling, training and implementation strategies, and BIM Management Services.

GSA NATIONAL BIM SERVICES IDIQ CONTRACT INFORMATION:

Beck Technology was awarded Zones A, B and C for Nationwide BIM Services and Zone B for Laser Scanning Services.

Our contract numbers are:

Contract No. GS-00P-09-CY-D-0283 – BIM Services

Contract No. GS-00P-09-CY-D-0300 – Laser Scanning

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OUR PARTNERS



SIMPSON GUMPERTZ & HEGER

Engineering of Structures
and Building Enclosures

Bohannon & Huston

LANGAN
ENGINEERING & ENVIRONMENTAL SERVICES



Applied Software

ZONE A

ZONE B

GSA 3D-4D-BIM Program

BIM Services
Nationwide IDIQ Contracts

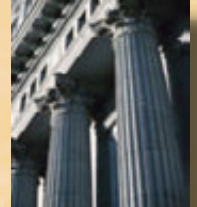
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Applied Software®
BIM Modeling Services



Contract Holder
Contract GS 00P-09-CY-D-0284



The Approved Source for Building Information Modeling Expertise

Applied Software Team: BIM Services Excellence

The Applied Software Team has the industry leading expertise necessary to provide nationwide Building Information Modeling (BIM) and related professional services to General Service Administrators.

Renovation and new construction projects are being undertaken throughout many Government Agencies. In 2003, General Services Administration (GSA), Public Buildings Service (PBS), and the Office of the Chief Architect & Construction Programs (OCA-CP) established the National 3D-4D BIM Program. Many other Federal and State Agencies are also utilizing BIM Programs to improve building designs and renovations as well as optimize the operations of public buildings.

In September 2009, GSA awarded a 5 year Nationwide IDIQ award to the Applied Software Team (Contract # GS 00P-09-CY-D-0284) to assist the Regions with developing, expanding and improving with their BIM programs. Applied Software is a Veteran-owned Small Business headquartered in Atlanta, GA.

Cutting the Red Tape Using the IDIQ Contract

When you contract with the Applied Software team, you are ensured of getting BIM Services at the best value without having to go through the stress and workload of a competitive selection process. The GSA IDIQ Selection process ensures that the Applied Software Team is technically qualified and in compliance with FAR and other government regulations. Task Orders will count toward your agency's socioeconomic goals.

Work directly with your Service Provider – The Applied Software Team

One benefit of the GSA IDIQ award is that you get to work directly with the Applied Software Team to discuss your BIM Services needs. We recognize that BIM is new to many Federal and State Agencies. The Applied Software Team has been working with BIM technologies for many years and we have the advanced skills to assist you in defining and scoping the level of effort required for your project. We can also assist you in clarifying your statement of work so that all parties understand timeframes, deliverables, milestones and critical success factors. During this process, we will also be determining the best members of the Applied Software Team to perform your task order.

Contact us today at:

GSA IDIQ BIM Services Program Manager:

Read more at

800.326.3286

Ellen Valentine
BIMServices@ASTI.com

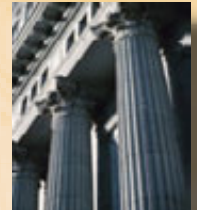
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Applied Software®
BIM Modeling Services



Contract Holder
Contract GS 00P-09-CY-D-0284



Applied Software

Established in 1982, Applied Software is a Veteran-owned small business that provides consulting, implementation, customization, training and integrated practice management services as well as mentoring and project management to architects, engineers, facility managers and project managers in the commercial, government and educational sectors. Applied Software is a recognized leader in Building Information Modeling (BIM).

Applied Software has a particular focus in supporting Project Managers by providing them the tools and guidance they need to provide the proper direction to their AEC teams so that they get the right BIM data at the right time and in the right place to support their full building lifecycle operational needs. Services that support Project Managers include BIM Execution Planning, RFP language development and refinement, Model Management and assisting in the transformation of information exchange into wisdom for the GSA team.

Applied Software also provides leadership to a team of 13 subcontractors who provide full lifecycle BIM Services including BIM Modeling, 2D Drawing Conversion, 3D Laser Scanning, BIM Analysis, BIM Integration, Software Development, Best Practices Integration, Project Management, Training and Strategic Planning.

The team consists of the following industry leading professionals: Lord Aeck & Sargent, Pruitt Eberly Stone, Smith Seckman Reid, EDI Ltd, Neenan, Optira, Georgia Tech Digital Building Lab, IES, US Cost, QinetiQ, DC Strategies, Draper & Associates, and Retrieve.

The Applied Software Team has performed a variety of services for GSA including:

- **Building Performance Analysis Training** – A one Day course for Project Managers, Sustainability Staff and other GSA Personnel for Region 2
- **BIM Modeling, Analysis, Visualization and Collision Detection for Tuscaloosa Federal Courthouse** – Including converting 2D Drawings to BIM Models
- **BIM Modeling for Fort Pierce Federal Courthouse**
- **Created GSA BIM Template for Region 4** – Used to Standardize the Creation of BIM Models across AEC Teams and Projects and ensure that models conform to GSA BIM Guide Standards. This Template is now being provided to other GSA Regions.
- **Navisworks Training for all BIM Champions**
- **Automated BIM Model checking for Tuscaloosa Federal Courthouse** including Spatial Program Validation, Circulation and Security Analysis
- **Existing Building Studies** using 3D Laser Scanning technologies which involved capturing as-built conditions in a highly accurate manner and post processing of the data. The deliverables usually included complete BIM models.
- **BIM Modeling (Structural), Blast Analysis, Progressive Collapse Analysis** for E.P. Tuttle Federal Courthouse Annex

Contact us today at:

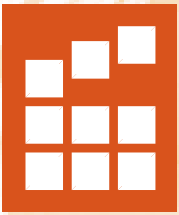
GSA IDIQ BIM Services Program Manager:

Read more at

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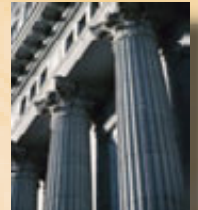
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**Applied Software®
BIM Modeling Services**



Contract Holder
Contract GS 00P-09-CY-D-0284



Teaming for Success:

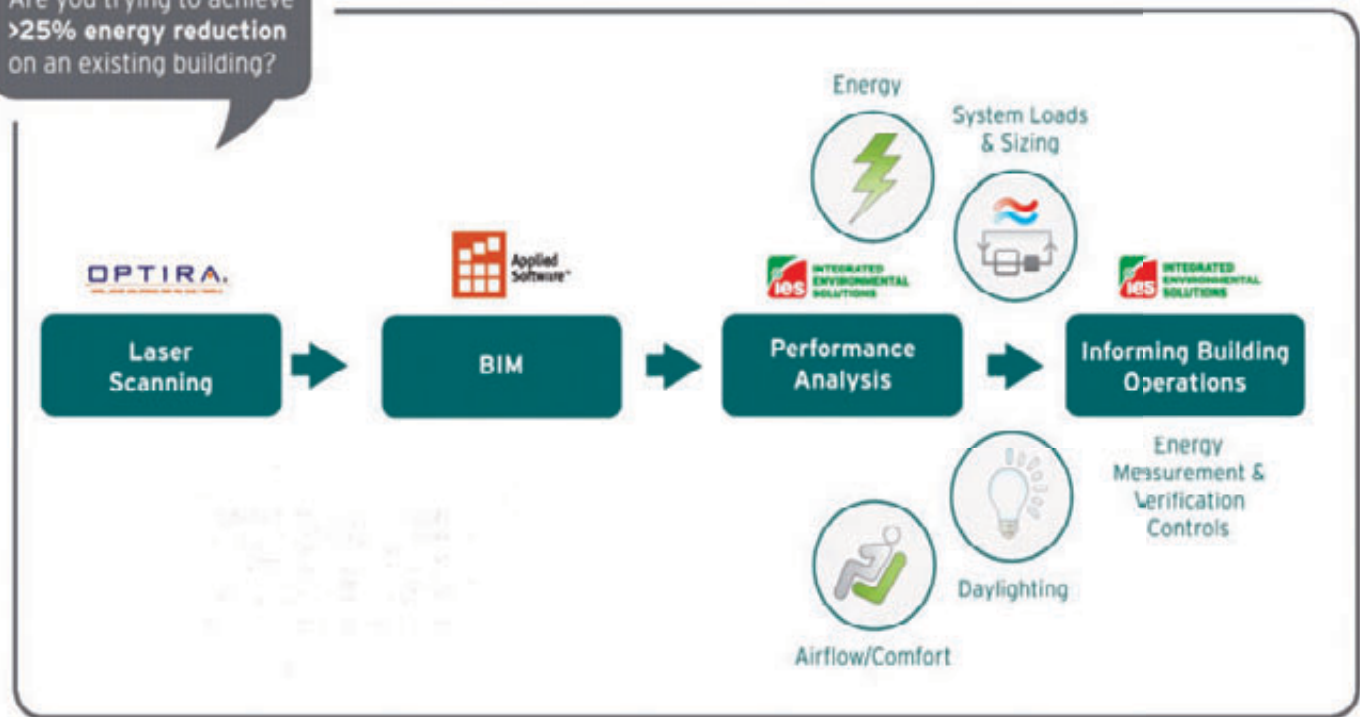
Delivering Total Solution Value for GSA

Teaming for Success: Delivering Total Solution Value for GSA

The Applied Software Team consists of collaborative firms of industry experts who can help you achieve your high performance building objectives for existing and new construction. The diagram expresses how three of the team members (Integrated Environmental Solutions (IES), Optira and Applied Software) can work with you to provide an innovative process solution. From the point of documenting your existing conditions, to BIM creation, to analyzing building performance (energy, daylighting, airflow) can be streamlined. Through the team's combined efforts we can help you assess, implement, and track your energy reduction targets and meet your goals.

Existing Buildings

Are you trying to achieve
>25% energy reduction
on an existing building?



Additional Services for GSA Success

The Applied Software Team also has the experience and expertise to collaborate on Facilities Management and Asset Management Integration, Campus-wide Standards Development, Multi-discipline Model consolidation and more.

Contact us today at:

GSA IDIQ BIM Services Program Manager:

Read more at

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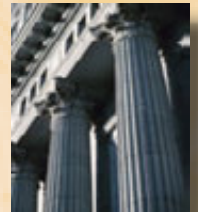
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BIM Modeling Services



Contract Holder
Contract GS 00P-09-CY-D-0284



Applied Software Team



Services

- Modeling (Architectural, Structural, MEP, IT, Security)
- 2D Drawing Conversion
- 3D Laser Scanning
- BIM Analysis (Building Performance Analysis, Circulation & Security Analysis, Cost & Constructability Analysis)
- BIM Integration & Software Development
- Best Practices, Project Management & Training
- BIM Integration & Documentation
- Standards Development
- Strategic Planning

Contact us today at:

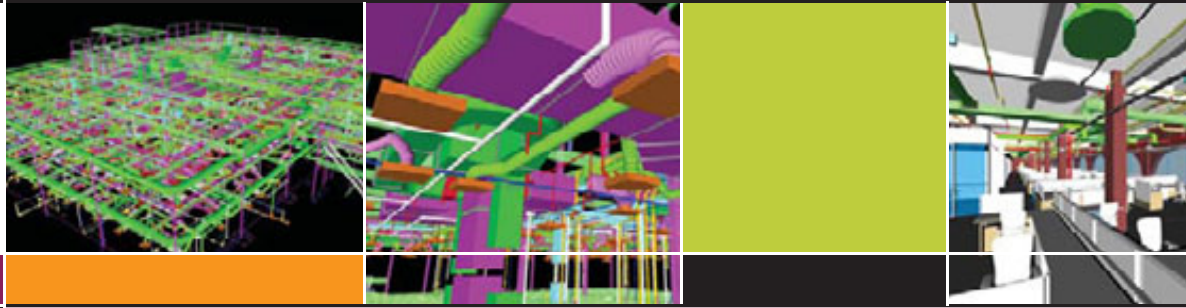
**GSA IDIQ BIM Services Program Manager:
The Approved Source for GSA Zones A & B**

Read more at

800.326.3286

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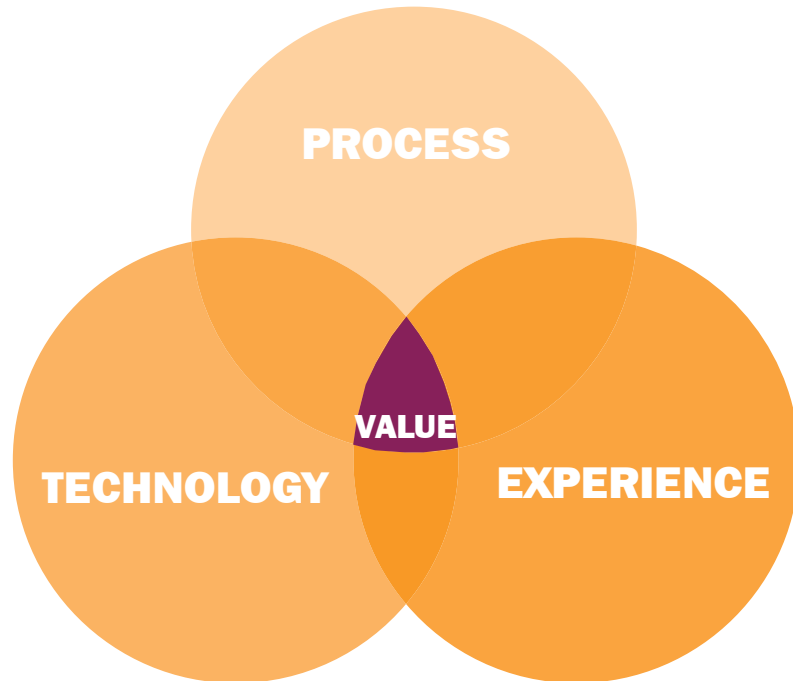
GSA BIM SERVICES

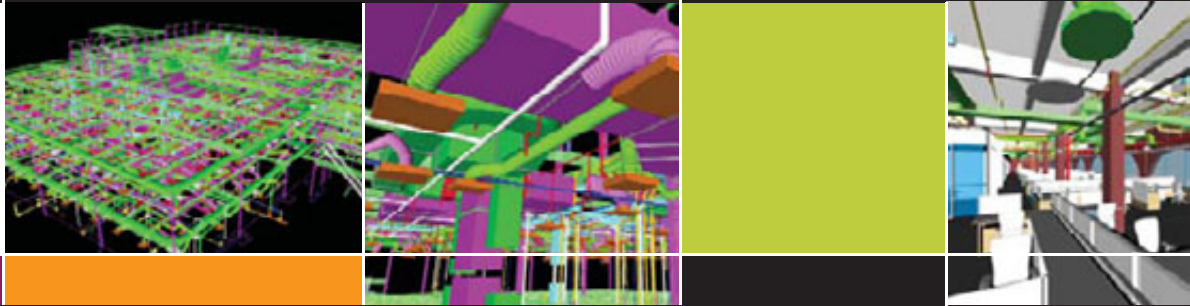
GSA IDIQ
BIM Contract #:
GS-00P-09-CY-D-0285

What we offer..

- Experienced Team
- Proven Results**
- Value Added Approach
- Collaboration**
- Communication
- Leader in Innovation**

Improve the Process, Performance, Quality and Efficiency of GSA Projects through BIM





Providing measurably more value for customers is DPR's guiding principle in the use of technology to enhance project delivery. As a long-established leader in Virtual Design and Construction (VDC), Building Information Modeling (BIM) and Integrated Project Delivery (IPD), we know that technology alone cannot deliver the level of results we have all come to expect. Team members must be able to skillfully use and improve the application of technology to continuously achieve better value and savings. Experience has proven that it is **the combination of technology and a collaborative ideology that yields the greatest returns**. Constructing the facility as a model provides the greatest opportunity to **evaluate design decisions**, plan the work efficiently throughout design, construction and turnover, **coordinate all the building systems** within the architecture and structure, and deliver the facility for its intended use in a **shorter time frame** with **fewer field conflicts** and their associated costs.

One of DPR's core values, EVER FORWARD, is the backbone of our current involvement and commitment to BIM. Our recent experience on projects like the Camino Medical Office Building in Mountain View, CA have established DPR as a leader in the industry. These projects used Building Information Modeling early in design, show our **collaborative approach** to problem solving, involved team decision making by the "core" group, inclusion of sustainability goals, an emphasis on **prefabrication**, and lean construction practices.

The key to successfully implementing BIM for buildings is to develop models that truly reflect the building as envisioned by the user, how the systems are to be constructed and how they can be maintained. With the DPR Team's extensive experience implementing BIM for design and construction, we build models virtually to improve the entire process. Our construction expertise allows for the models to reflect field construction planning and **maintenance considerations for use after turnover** to the owners. Performing these efforts strategically to match the project goals, traits, and needs to the appropriate BIM uses and modeling requirements is not new to the DPR Team.

One of the key challenges often encountered is how to model early and accurately in a manner that allows the later users to build from the early models rather than creating a new model for each analysis. With our background in **integrated delivery approaches**, planning these model transfers, clearly defining the responsibilities, understanding the requirements for each system's geometry, level of detail, and information to be transferred, our team can guide the process appropriately. The key to success is defining the requirements for all phases, working from the final product requirements backward to identify the lean approach to delivering the essential information to the model at the right time. This reduces wasted time reproducing models and information but still delivering the needed information in a Just-In-Time manner.

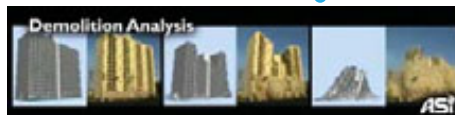
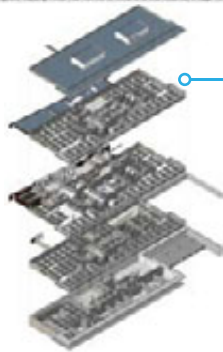
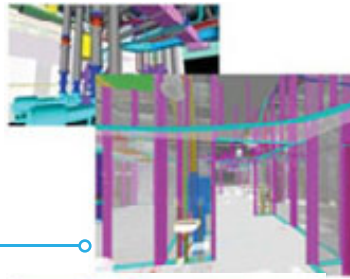
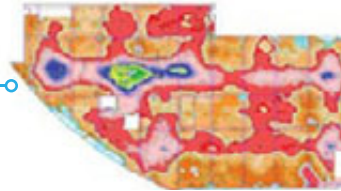
Today's sophisticated facilities, complex remodels, and need for accelerated delivery to meet user needs, place greater demands on the entire project team. Beneath the steel, concrete and drywall lies a maze of substructure, mechanical, specialty, electrical, security and process systems, but to the end user the most important aspect is that the building meet their needs; whether they are functional, security, or based on energy performance (LEED). The DPR Team is a proven team of experienced BIM engineers that create, manage, and manipulate the necessary level(s) of models for the project user's needs (planners, designers, construction trades, facility management, occupants and specialty consultants, schedulers and estimators). The DPR in house team's preconstruction/construction focused group of BIM modelers have experience working with all disciplines whether it is a simple or complex model based on the project needs. They bring the benefit of knowing that when they model; it will be estimated, scheduled, and built by their co-worker - so the attention to appropriate detail and determination to identify and resolve issues is in the forefront of their minds. Our extensive Consultant team is used to delivering highly complex and performance based facilities and following them through execution of the designs they model. We have assembled a team that has the ability to respond to the needs of your GSA Project.



Services

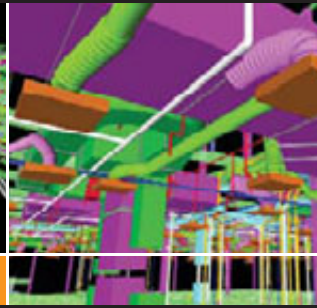
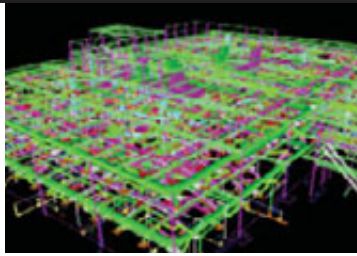
The DPR Team brings depth, **experience** in planning, analysis, design, construction, and operations, as well as the **leadership** and **enthusiasm** for advancing the use of BIM in the construction industry.

- 3D-LASER SCANNING
- 4D MODELING
- BEST PRACTICES BIM TRAINING
- BIM IMPLEMENTATION SUPPORT
- BIM MODELING: 2D → 3D BIM TRANSFORMATIONS
- BIM TRANSITION PLANNING
- BIM-BASED MODEL CHECKING
- BUILDING PERFORMANCE ANALYSIS
- CIRCULATION AND SECURITY ANALYSIS
- CLASH DETECTION
- COMMISSIONING / FACILITY / OPERATIONS MANAGEMENT
- COMPUTATIONAL FLUID DYNAMICS
- CONSTRUCTABILITY ANALYSIS
- DAYLIGHTING ANALYSIS
- DEVELOPMENT AND MAINTENANCE OF DESIGN AND CONSTRUCTION DOCUMENTATION IN BIM
- DEVELOPMENT OF BENCHMARKING, MEASUREMENT STANDARDS, AND PROGRAMS
- DEVELOPMENT OF BEST PRACTICES GUIDANCE
- DEVELOPMENT OF BIM ASSESSMENT AND PROJECT IMPLEMENTATION PLANS
- DEVELOPMENT OF CASE STUDIES



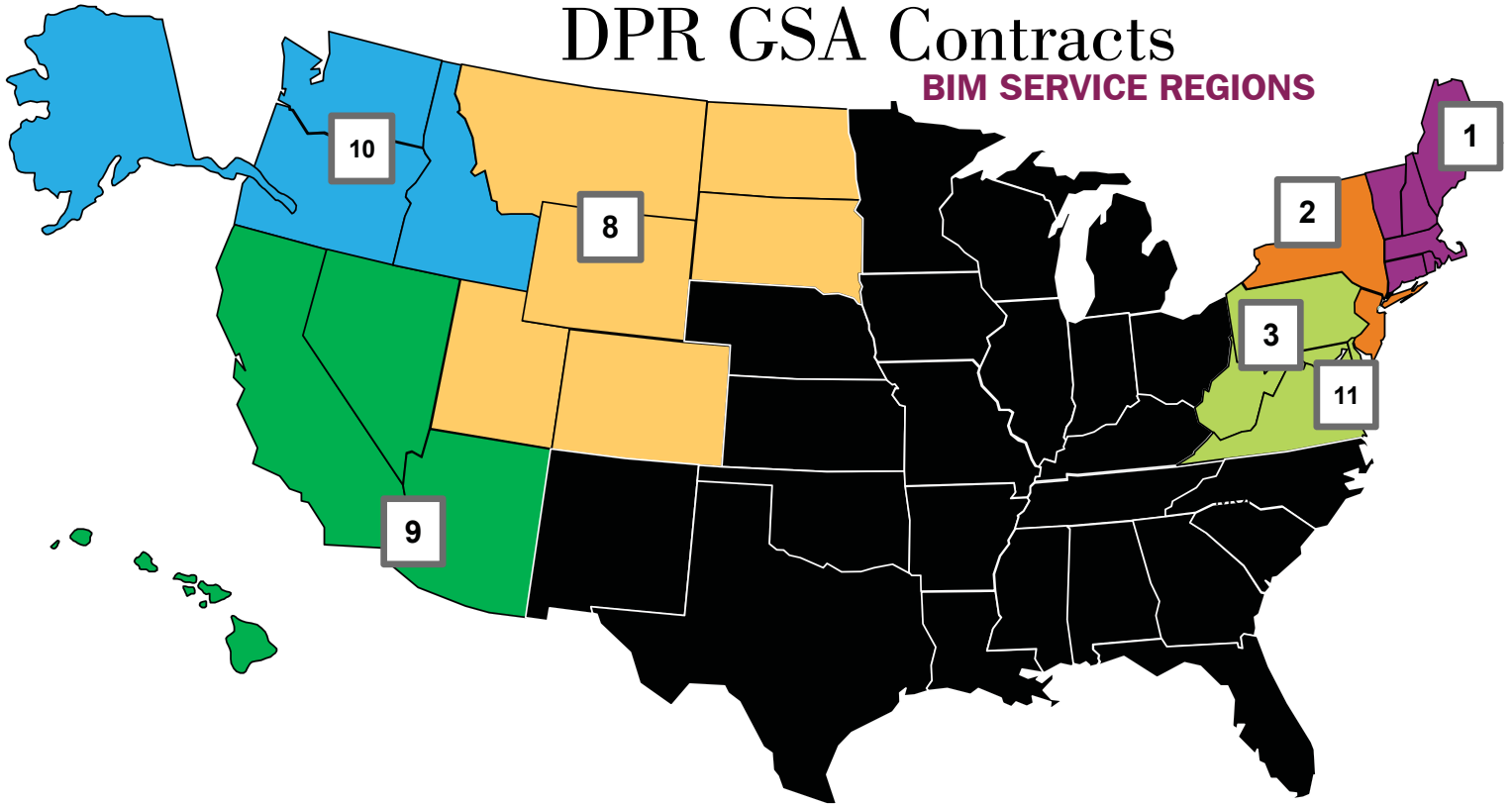
- DEVELOPMENT OF LONG- & SHORT-TERM IMPLEMENTATION STRATEGIES
- DEVELOPMENT OF NEW SOFTWARE FUNCTIONALITIES TO SUPPORT BIM-BASED PROJECT IMPLEMENTATION AND MANAGEMENT
- DEVELOPMENT OF PROCEDURES AND TRAINING MANUALS
- EARLY CONCEPT DESIGN ANALYSIS
- EMERGENCY MANAGEMENT ANALYSIS
- ENERGY ANALYSIS
- FABRICATION
- GUIDANCE AND MANAGEMENT OF BIM HARDWARE AND SOFTWARE CAPABILITIES
- INTEGRATION OF MULTIPLE BIMs
- QUANTITY TAKE-OFFS / COST ANALYSIS / COST ESTIMATING
- REVIEW BIM MODELS & ANALYSIS COMPLETED BY OTHER SERVICE PROVIDERS
- SOFTWARE SPECIFIC BIM TRAINING
- SPATIAL PROGRAM VALIDATION
- STRUCTURAL ANALYSIS/BLAST ANALYSIS
- TECHNOLOGY SELECTION
- VISUALIZATION / VIRTUAL MOCK-UPS





DPR GSA Contracts

BIM SERVICE REGIONS



The DPR GSA BIM Team

DPR CONSTRUCTION
www.dprinc.com

APPLIED SCIENCE INTERNATIONAL, LLC
www.appliedscienceint.com

CID ENGINEERING, INC.
www.cidengineering.net

HDR, INC.
www.hdrinc.com

HKS
www.hksinc.com

INNOVTEC
www.innovtec.com

ONUMA, INC.
www.onuma.com

QUANTAPOINT, INC.
www.quantapoint.com

RTKL ASSOCIATES, INC.
www.rtkl.com/services/75/BIM.aspx

SIMPSON GUMPERTZ & HEGER (SGH)
www.sgh.com

STANTEC
www.stantec.com

SH GROUP, INC.
SYSKA HENNESSY
www.syska.com

WANT MORE INFORMATION?

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BIM Ops Manager

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AtulK@dprinc.com

BIM Ops Manager

Rob Leicht, PhD
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RobL@dprinc.com

Federal Group Manager

Mike Devens
 (303) 790-9219
MichaelD@dprinc.com



Ghafari Associates, LLC

ZONE A

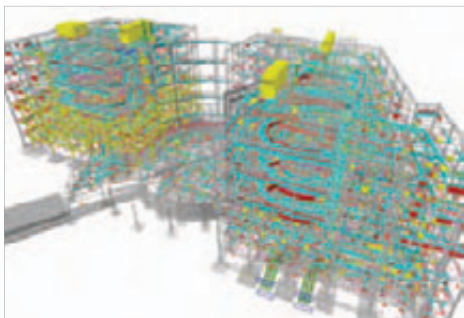
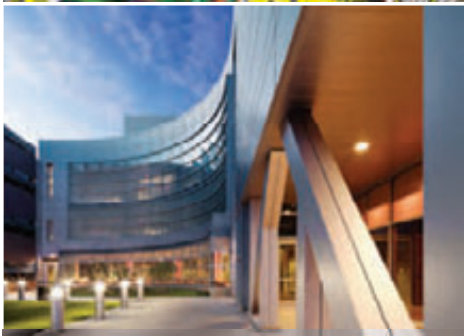
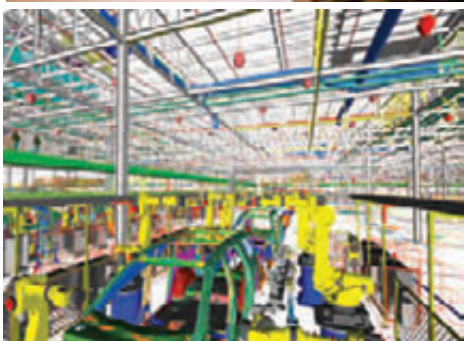
ZONE B

ZONE C

*BIM Services
Nationwide IDIQ Contracts*

GSA 3D-4D-BIM Program

www.gsa.gov/bim



Ghafari Overview

National BIM IDIQ
Contract No. GS-00P-09-CY-D-0286

Region 5 IDIQ A/E Services
Contract No. GS-059-09-GBD-0009

Federal Supply Schedule
Contract No. GS 10F0067U

GHAFARI

Full-Service Solutions

We are a global firm offering a holistic, transparent approach to all your facility and manufacturing needs from concept through construction and beyond. Our services include planning, architecture, engineering, process design, equipment design, and consulting with a wide array of experience in 28 countries and various project types.

We can become part of your team at any point in the Project Life Cycle. With our operations-focused approach, we are committed to delivering innovative, value-maximizing design solutions to meet our clients' performance requirements and operating objectives. Our seasoned architects and engineers design the interior space to meet a client's needs, whether it's commercial space or highly complex, technical manufacturing processes, then our team determines the appropriate exterior design.

Project Types

Our staff is experienced in the planning, design and development process for projects ranging from small interior renovations to large complex facilities. Project types include:

Aviation Support Facilities
Educational Facilities
Entertainment Complexes
IT & Data Centers

Laboratories
Logistic Centers & Warehouses
Manufacturing Facilities

Medical Centers
Office Buildings
Research & Development Facilities

Leaders In Technology

Recognized as a leader in applying cutting edge 3D/4D BIM technology, Ghafari delivers high quality projects that are sustainable and safer during construction, often with reduced schedules and budgets. Our experience in 3D/4D BIM coupled with Integrated Project Delivery (IPD) and lean business practices have transformed the architecture and engineering industry for both new and remodeled facility projects. We realized several years ago that 3D only achieves breakthrough results when combined with select lean practices and principles that encourage data flow across the design, fabrication and construction supply chain.

3D BIM + IPD + LEAN = Break Through Results

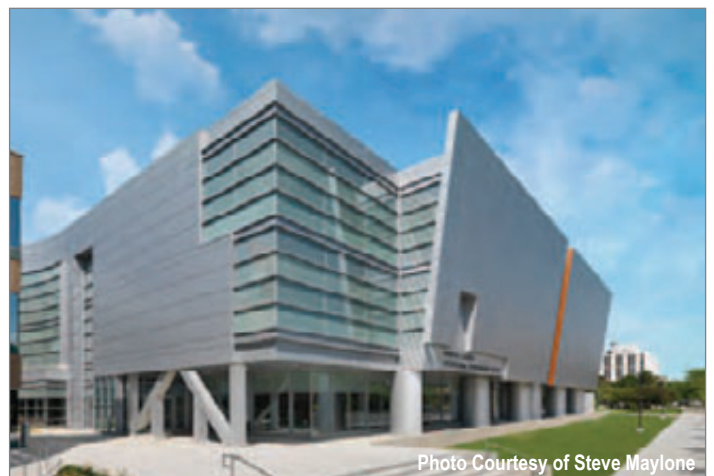
We are also experts in 3D High Definition Laser Scanning & Surveying which provides more precise measurements and reduced field survey time for building expansions, renovations or fabricating new components. Ghafari has scanned more than 15 million sq. ft.

Sustainability

Successful sustainable design depends upon innovative alternatives, unique solutions, teamwork, and unconventional construction practices that utilize renewable energy with long-term proven results. We are dedicated to creating sustainable designs, reducing your carbon footprint and adhering to Leadership in Energy and Environmental Design (LEED) standards. We recognize that short-term satisfaction is not good enough for our clients and our environment; a facility's performance over its life-cycle is the true measure of sustainability. We work closely with clients to develop synergies between economic, environmental and social concerns, considering long-term operations and maintenance requirements.



GM Lansing Delta Township Assembly Complex — LEED Gold Certified



Wayne State University Marivn I. Danto Engineering Development Center
LEED Silver Certification (pending)

Recent BIM Enabled Federal Government Experience

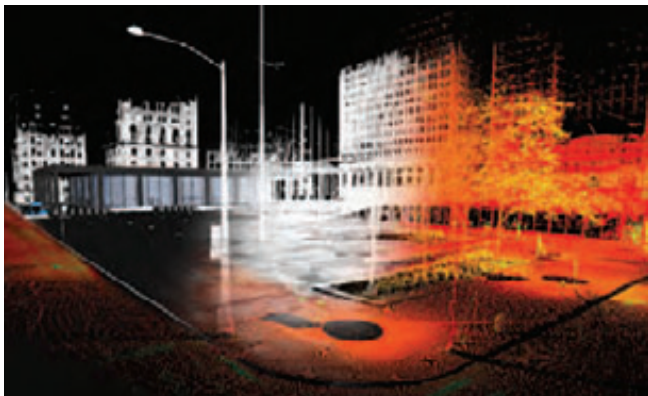


Image courtesy of US General Services Administration

General Services Administration (GSA) 3D BIM Nationwide IDIQ (Zones A, B, C)

Multiple Locations, USA

Ghafari was recently awarded a five-year, up to \$30 million contract to support the U.S. General Services Administration in its Building Information System Modeling (BIM) initiatives. This indefinite delivery indefinite quantity (IDIQ) contract covers all 11 GSA regions. Task orders under this contract include modeling of architectural, structural, civil, mechanical and electrical designs, BIM based analysis, integration, documentation maintenance and training, as well as the development and implementation of BIM based strategies.

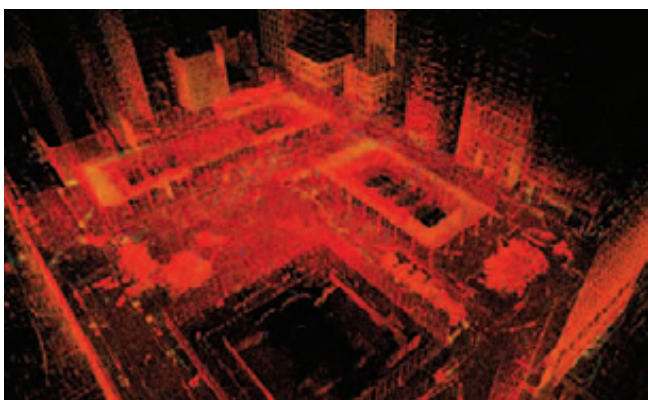
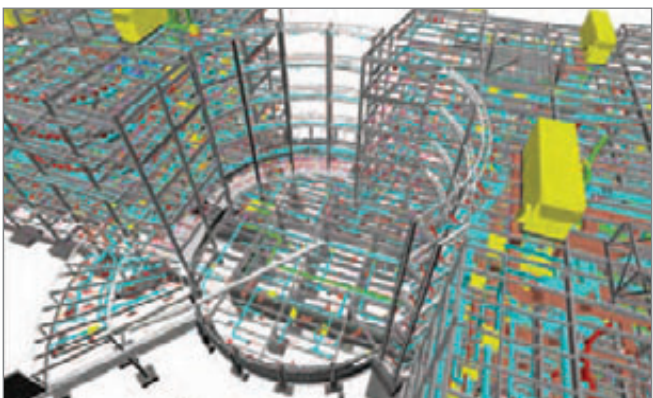


Image courtesy of US General Services Administration

General Services Administration (GSA) Region 5 Architecture/Engineering IDIQ

Multiple Locations, USA

Under this IDIQ contract, Ghafari and other team member firms are eligible to receive GSA task orders within a six state region, which includes Illinois, Indiana, Michigan, Minnesota, Ohio, and Wisconsin. Task orders include site investigations, site surveys, feasibility studies, project development studies, building evaluation reports, master plans, concept designs, construction documents, estimating, record drawings, constructability reviews, technical drawing reviews, shop drawing design and approval and construction site inspection. Ghafari is currently designing the restoration of the Chicago Federal Center, the contract's third and largest task order to date.

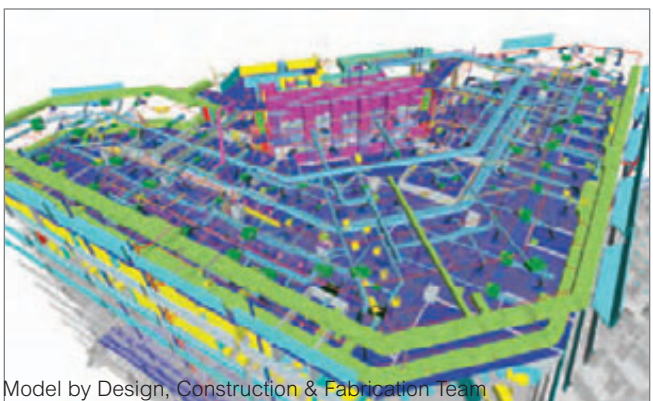


Model by Design, Construction & Fabrication Team

General Services Administration (GSA) Federal Courthouse

Jackson, Mississippi USA

Ghafari provided Building Information Modeling (BIM) and Integration Management (IM) services for the GSA and the design team on the new United States Federal Courthouse. The IM services continue during the construction phases of the project to assist the design team, the general contractor, and sub-contractors in leveraging the 3D models during the construction phases of the project to enhance the level of coordination and submittal reviews. Services included selection of BIM tools, defining workflow and information sharing protocols, coordinating and managing BIM data with multi-discipline 3D design reviews, compiling final report with metrics, and Value Stream Mapping (VSM).



Model by Design, Construction & Fabrication Team
Image courtesy of US General Services Administration

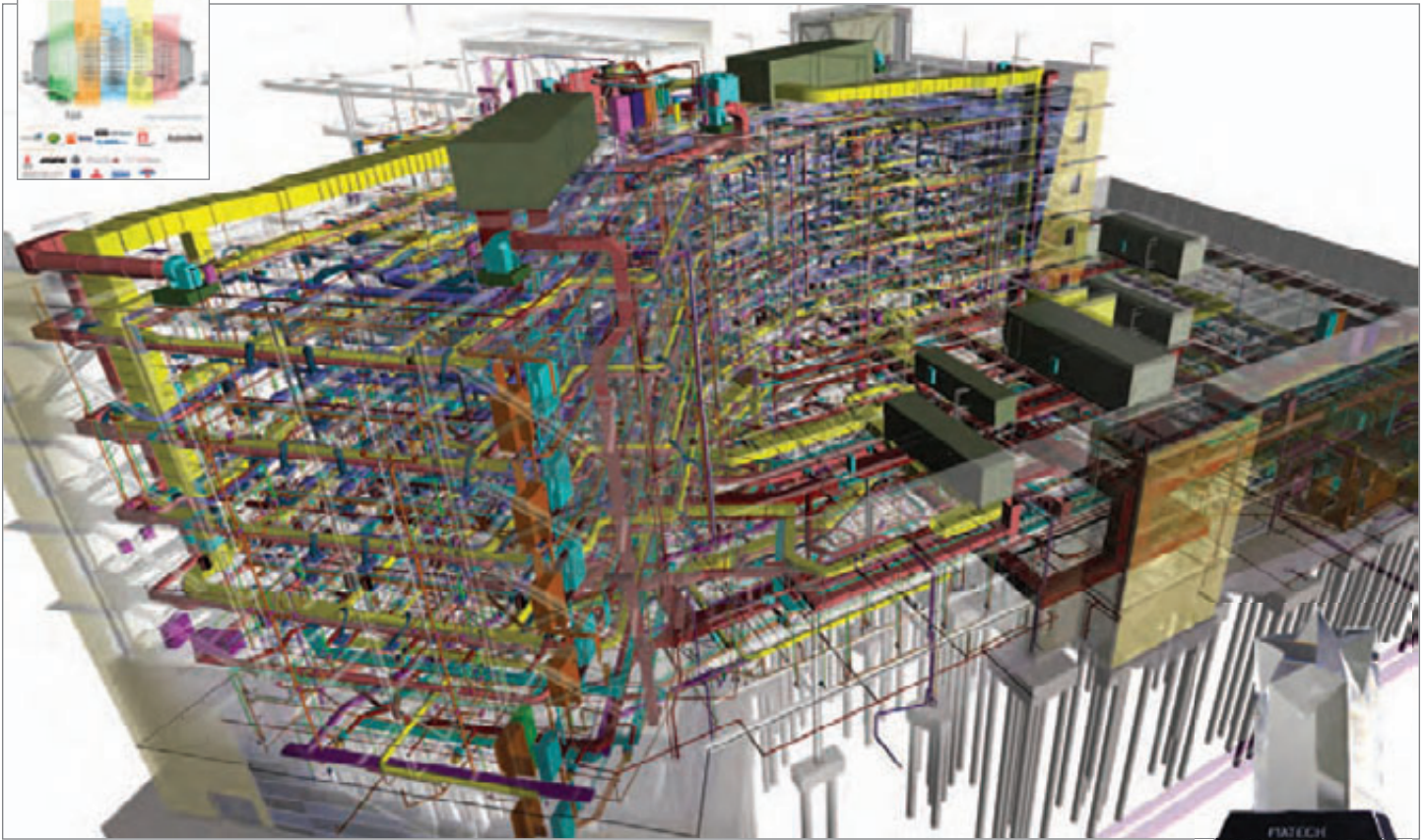
General Services Administration (GSA) Dr. A.H. McCoy Federal Building

Jackson, Mississippi, USA

Ghafari is assisting the project team in evaluating and selecting appropriate BIM solutions to design and coordinate the security pavilion. Coordination of the development of the design phase BIM will follow, to most effectively take advantage of the BIM workflows and methodologies; while leading the design team in implementing processes to utilize BIM. In addition, Ghafari is also leading the team in planning the workflow for utilizing BIM for cost management and 4D construction sequencing.



Case Study Project



Model by Integrated Project Delivery (IPD) team.

"Projects as Laboratories"

DEARBORN, MI

CHICAGO, IL

INDIANAPOLIS, IN

DOHA, QATAR

ABU DHABI, UAE

BARODA, INDIA

Unique Integrated Services

Ghafari offers a holistic, transparent approach to all your facility and manufacturing needs from concept through construction and beyond. Some of our services include:

Full-Service Architecture & Engineering Solutions

- Programming
- Architecture & Design
- Structural Engineering
- Mechanical & Electrical Engineering
- Plumbing & Fire Protection Engineering
- Site & Civil Engineering
- Data & Telecom Engineering
- 3D/4D Building Information Modeling (BIM)
- Sustainable Design

Process Engineering

- Operation Analysis
- Industrial Engineering
- Materials Management
- Material Handling Systems
- Paint Process System
- Design & Management
- Containerization Program
- Management
- Equipment Procurement & Installation
- Manufacturing Engineering
- 3D Laser Scanning

For more information, please contact:

Robert Mauck AIA, PE

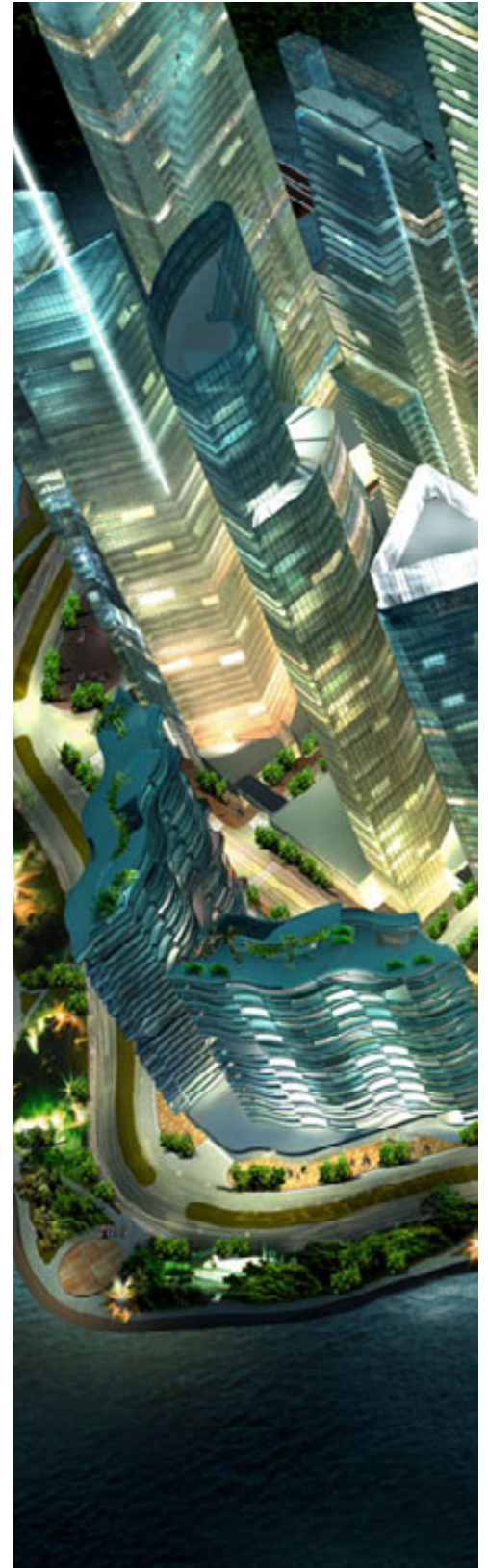
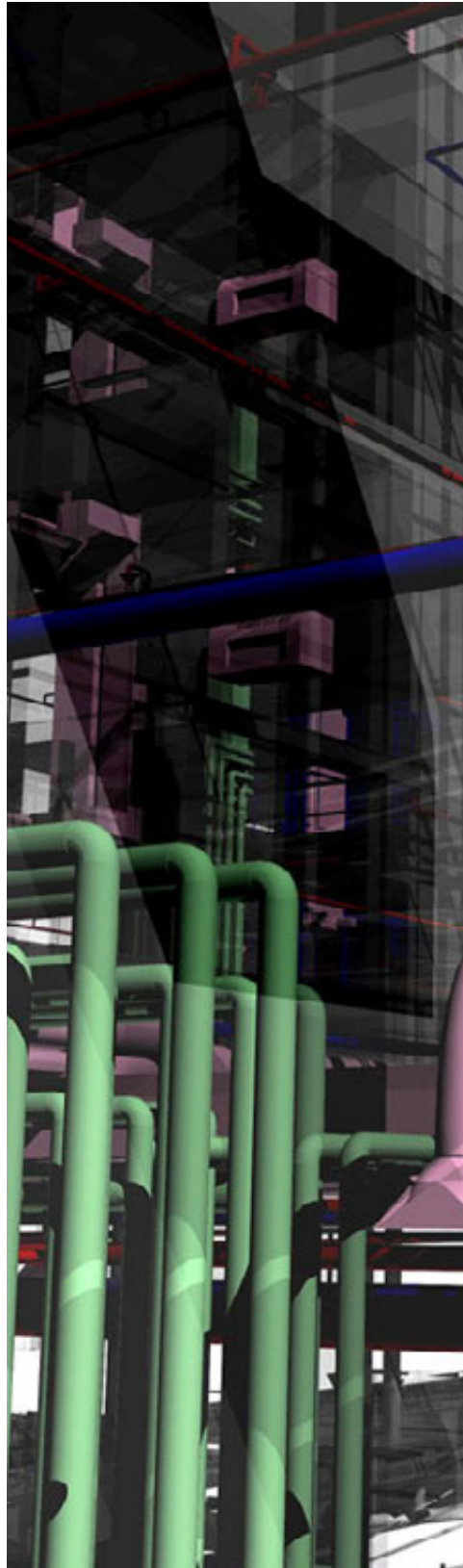
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Matthew Jogan AIA

Consultant
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mjogan@ghafari.com

Representative BIM Awards and Recognition

- SmartMarket Report Case Study
- Sutter Health Medical Center Castro Valley
- 2008 FIATECH CETI Award
- Sutter Health Medical Center Castro Valley
- AECBytes "Case Study of an IPD Project"
- Sutter Health Medical Center Castro Valley
- 2 of 10 Case Studies in the *BIM Handbook*
- GSA United States Federal Courthouse
- General Motors Project Series
- ENR Cover Story
- General Motors Project Series
- 2006 Design/Build Excellence Award
- General Motors Project Series
- 2006 AIA TAP Award
- General Motors Project Series
- 2006 FIATECH CETI Award
- General Motors Project Series
- Integrated Project Delivery: Different Outcomes, Different Rules, whitepaper published for Victor O. Schnierer 48th Annual Meeting of Invited Attorneys



Contract #GS-00P-09-CY-D-0288

Introduction

KlingStubbins and Tocci Building Corporation have been selected as a prime contractor team for a five-year IDIQ contract (#GS-00P-09_CYD-0288) to provide Building Information Modeling (BIM) Services for the US General Services Administration.

KlingStubbins (www.klingstubbins.com), a large and innovative architecture, engineering, interiors, planning, and landscape architecture firm with offices in Philadelphia, PA; Cambridge, MA; Raleigh, NC; San Francisco, CA; and Washington, DC, is a nationally recognized leader in sustainable design and innovative project delivery. Tocci Building Corporation (www.tocci.com), a premier construction services firm located in Woburn, MA, is a national leader in application of advanced construction technologies including Building Information Modeling (BIM). KlingStubbins and Tocci recently collaborated on the LEED-Platinum Certified Autodesk AEC Headquarters project, the first project in New England delivered under a BIM-enabled Integrated Project Delivery (IPD) agreement.

Potential task orders expected under this IDIQ contract will include multi-disciplinary Building Information Modeling (BIM), BIM-based design and construction analysis, BIM Implementation, and BIM training and support program development. Our team can provide design and construction related BIM consulting services for new and renovation projects on Federal buildings located in the GSA New England (Region 1), Northeast & Caribbean (Region 2), Mid-Atlantic (Region 3), Rocky Mountain (region 8), Pacific Rim (region 9), Northwest and Arctic (Region 10), and the Washington DC Central Office (Region 11) regions.

We encourage you to contact our team and to learn more about the BIM Services that our team can bring to your projects.

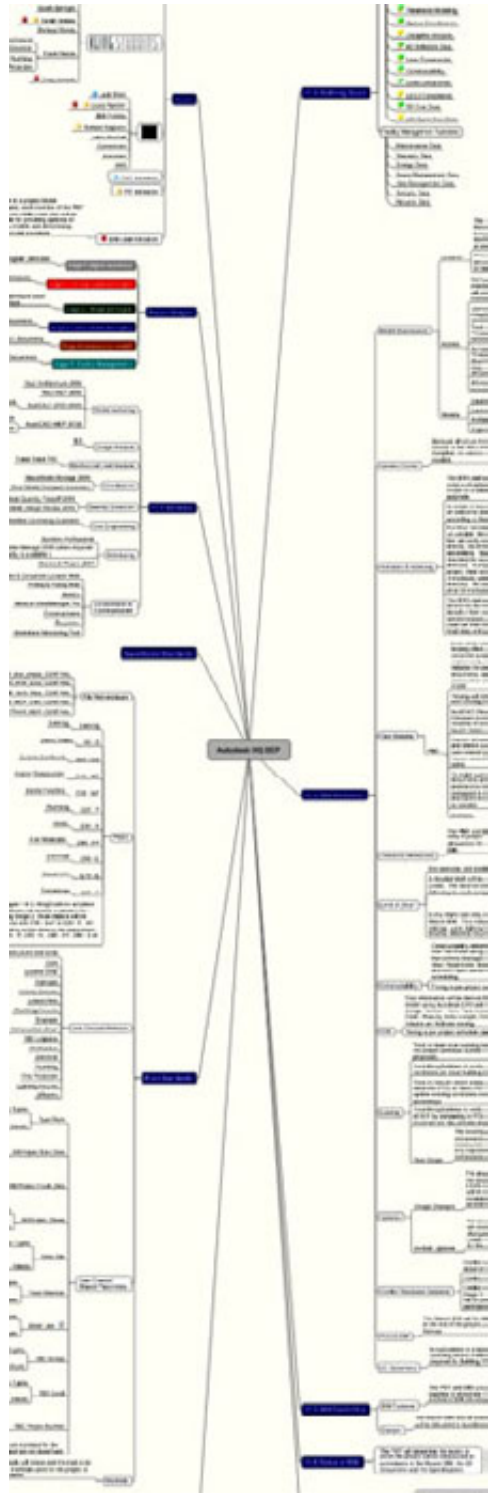
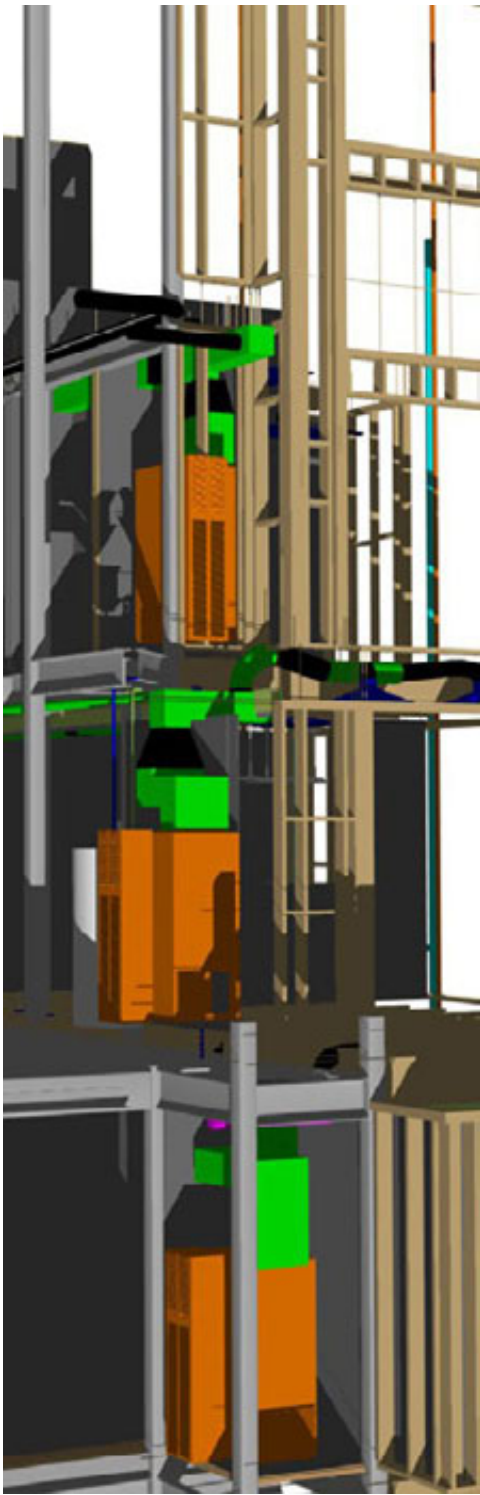


Professional Model Services:

- Architectural
- Structural
- MEP
- Civil
- Transform 2D Drawings and Develop BIMs
- 3D Laser Scanning (Development of BIMs from Point Cloud Data)

BIM Based Design Analysis:

- Model checking to validate GSA Requirements
- Visualization/Virtual Mock-ups
- Spatial Program Validation
- Building Performance Analysis (Energy, Daylighting, etc.)
- Structural/Blast Analysis



BIM Based Construction Analysis:

- Visualization/ Virtual Mock-Ups
- 4D Modeling (Schedule Communication)
- Quantity Takeoffs/Cost Analysis
- Clash Detection
- Fabrication
- Commissioning/Facilities Operations and Management
- Turnover Documentation

BIM Implementation:

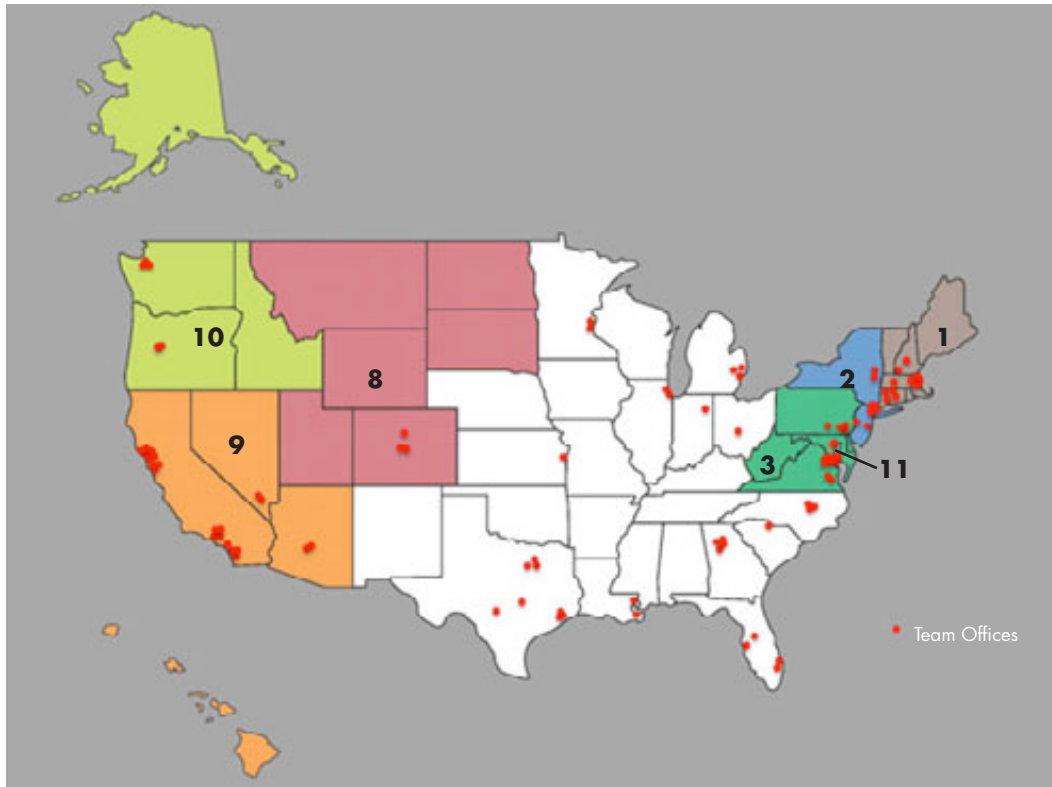
- Integration of multiple BIMs
- BIM Assessment & Implementation Plans
- Support to Design & Construction firms
- Review of BIMs
- Best Practice Guidelines and Case Studies

BIM Technology:

- Software Specific Training (Revit, Bentley, Tekla, Navisworks, Solibri, Synchro, etc)
- Development of Implementation Strategies
- Technology Selection
- BIM Transition Planning
- Software Functionality Development

Our Locations

The Tocci/KlingStubbins BIM team services GSA Regions 1, 2, 3, 8, 9, 10 and 11 (Zone A & C).



Our Team

KlingStubbins	Architecture & Engineering
Tocci Building Companies	Construction Planning, Management and Execution
Simpson Gumpertz & Heger, Inc.	Structural & Envelope Engineering
Raymond L. Goodson Jr., Inc.	Civil & Structural Engineering
WSP Flack + Kurtz	Mechanical Engineering
WSP Cantor Seinuk	Structural, Envelope Engineering
WSP SELLS	Civil & Traffic Engineering & Laser Scanning
EMCOR Group Inc.	Mechanical, Plumbing, Fire Protection & Electrical Construction
J.C. Cannistraro, LLC	Mechanical, Plumbing & Fire Protection Construction
Metco Services, Inc.	Laser Scanning
Faithful & Gould	Cost Analysis
Autodesk, Inc.	Software Solutions
Bentley Systems Incorporated	Software Solutions

Contact



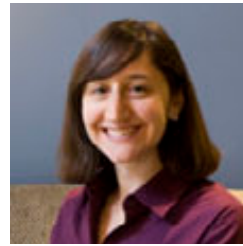
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www.klingstubbins.com



Jack Short, Program Director
Tocci Building Companies
jshort@tocci.com
508-888-5414
www.tocci.com



Sarah Vekasy, Project Manager
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svekasy@klingstubbins.com
617-250-4961
www.klingstubbins.com

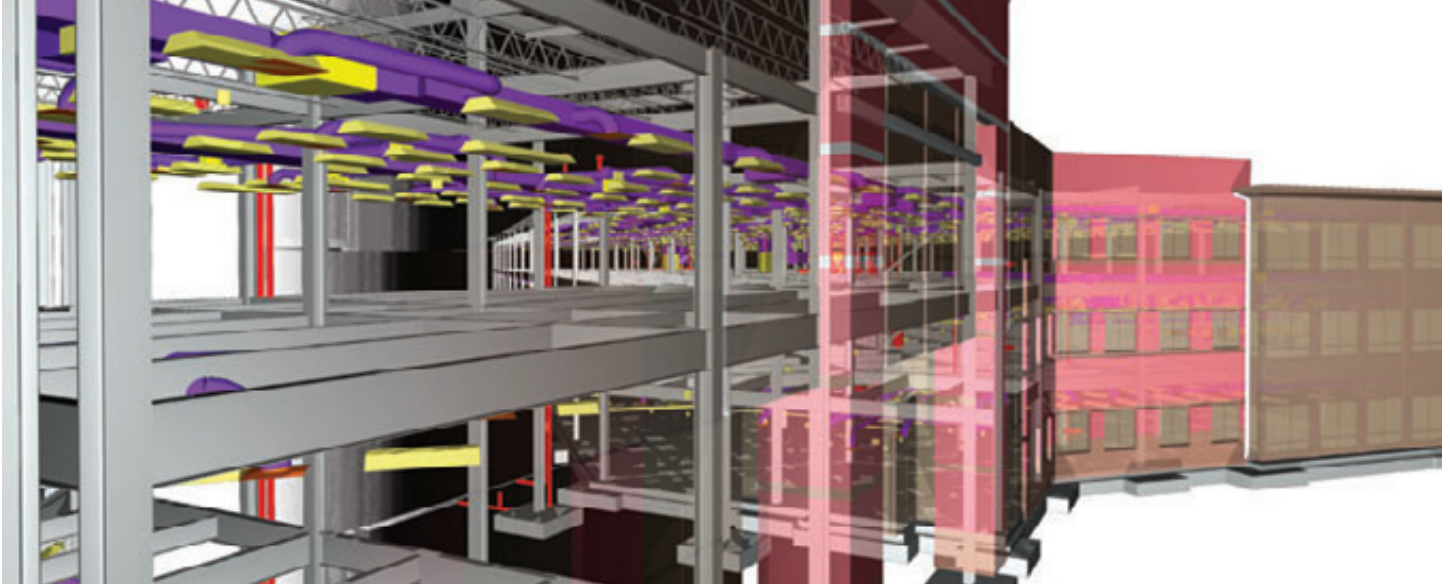


Laura Handler, BIM Manager
Tocci Building Companies
lhandler@tocci.com
781-935-5500
www.tocci.com

Contract #GS-00P-09-CY-D-0288



FM Integration Services



BIM Related Services

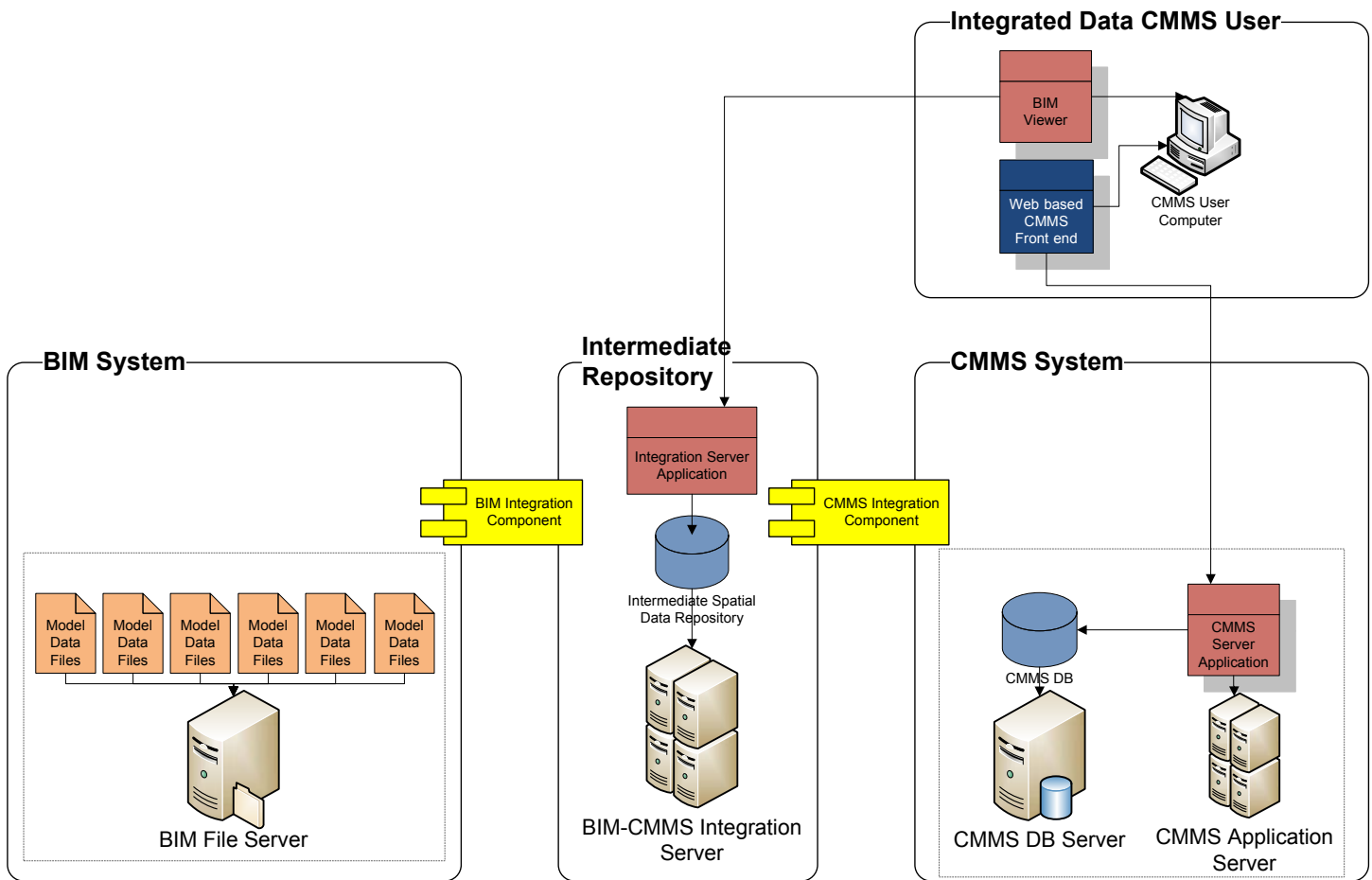
- Architectural
- Structural
- MEP
- Civil
- Transform 2D Drawings to BIM
- Visualization
- Spatial Program Validation
- 3D Laser Scanning
- 4D Modeling
- Building Performance Analysis
- Sustainable Design Analysis
- Quantity Take Off/Cost Analysis
- Clash Detection
- Commissioning/FM/Operations
- Circulation & Security Analysis
- Early Concept Design Analysis
- Structural/Blast Analysis
- Emergency Management Analysis
- Fabrication
- Integration of BIMs
- Develop / Maintain Design / Construction Drawings
- BIM Implementation Support
- BIM Training
- Develop Long/Short Term Implementation Strategies
- Develop New Software Functionality

Our Approach

As an industry leader in Building Information Modeling (BIM), HNTB has developed a methodology that leverages the power of BIM not just during design, but as an ongoing value throughout every stage of your facility's lifecycle: We call it BIMTrax™. This unique blend of processes and tools is continually improved to better collect and utilize key project data from the earliest planning stages through facilities management and beyond. BIMTrax marries HNTB-created software and design processes with industry-leading applications to meet client, building and management requirements. HNTB developed BIMTrax to ensure the data collected up front delivers the benefits you expect in planning, design and construction, and then continues to add value throughout the life of the facility.

FM Integration Services

HNTB maximizes a cross functional team of technology, architectural and engineering design professionals to deliver or enhance facilities management solutions that will meet your needs. A thorough Front End Analysis Needs Assessment helps to establish your work flow and funding criteria, resulting in an actionable FM System Implementation Plan. Our assessment will provide you with the right mix of custom and commercial software tools and services to meet your goals.



“By applying the BIMTrax methodology, clients realize efficiencies by leveraging information captured throughout planning, design and construction into a living as-built model. This model can then integrate dynamically with facilities management applications.”

Agnes Otto

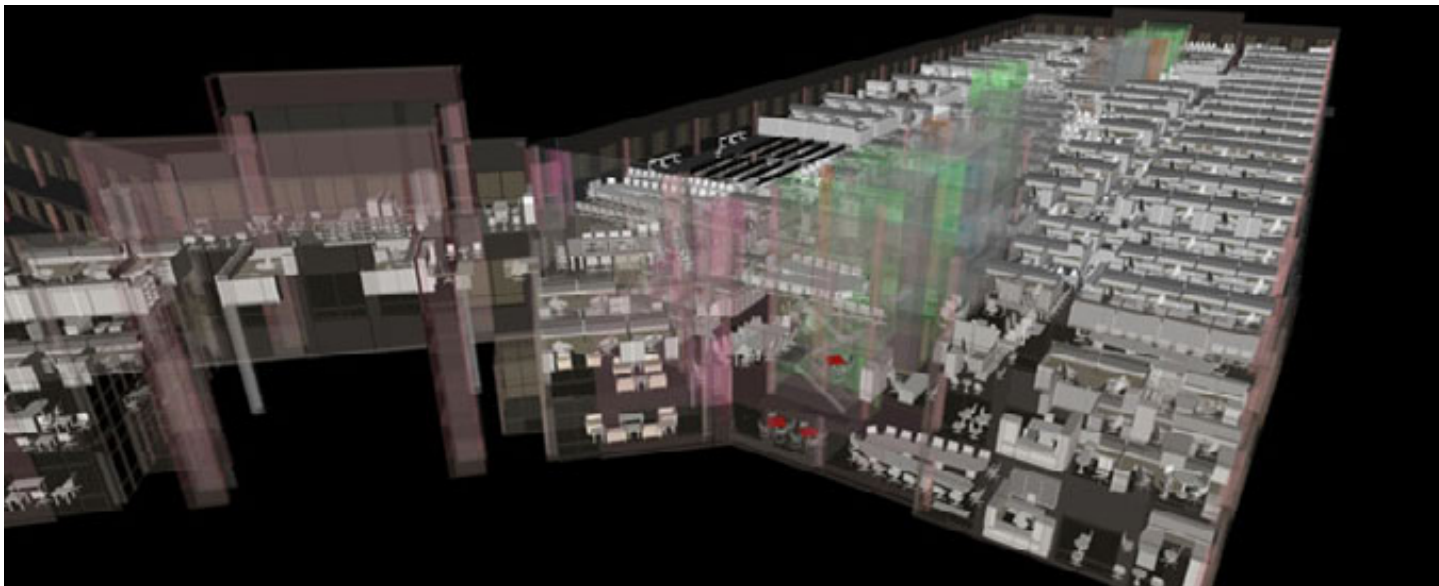
HNTB Technology Practice Leader

Value

HNTB's BIMTrax approach to integrating and providing FM Systems takes good building planning, design and sustainability knowledge and incorporates best practices in facilities management. Value metrics for BIMTrax FM system integration cross three critical ROI areas for targeting and measurement:

- 1. Staffing** - The BIMTrax FM Model that's created when the BIM and FM data models are mapped together enables the user to leverage one integrated data set. This often reshapes or redirects work flows or process improvements that are targeted through analysis during the early stages of HNTB's integration project assignments or may come during training and live automation cycles. Improved processes, communications, and operational controls result in time saved or time better utilized.
- 2. Materials** - The BIMTrax FM Model provides clear insight into scheduling and managing maintenance events. By integrating the BIM model visual with a typical computerized maintenance management system (CMMS), average users are able to more easily navigate facilities, identify targets and manage material inventory. This results in money savings from more efficiently utilized or applied materials or resources.
- 3. Life Cycle Extension** - The integration of the BIMTrax FM System through its ability to tap into building model views from the CMMS and building maintenance schedules from the BIM model will provide an easy-to-use visual application of what is often a confusing mass of hard to locate or understand data and information. Metrics and operational controls will drive out the end game of extending the facility life cycle through conservative, sustainable measures.

BIM Sustainability Practices



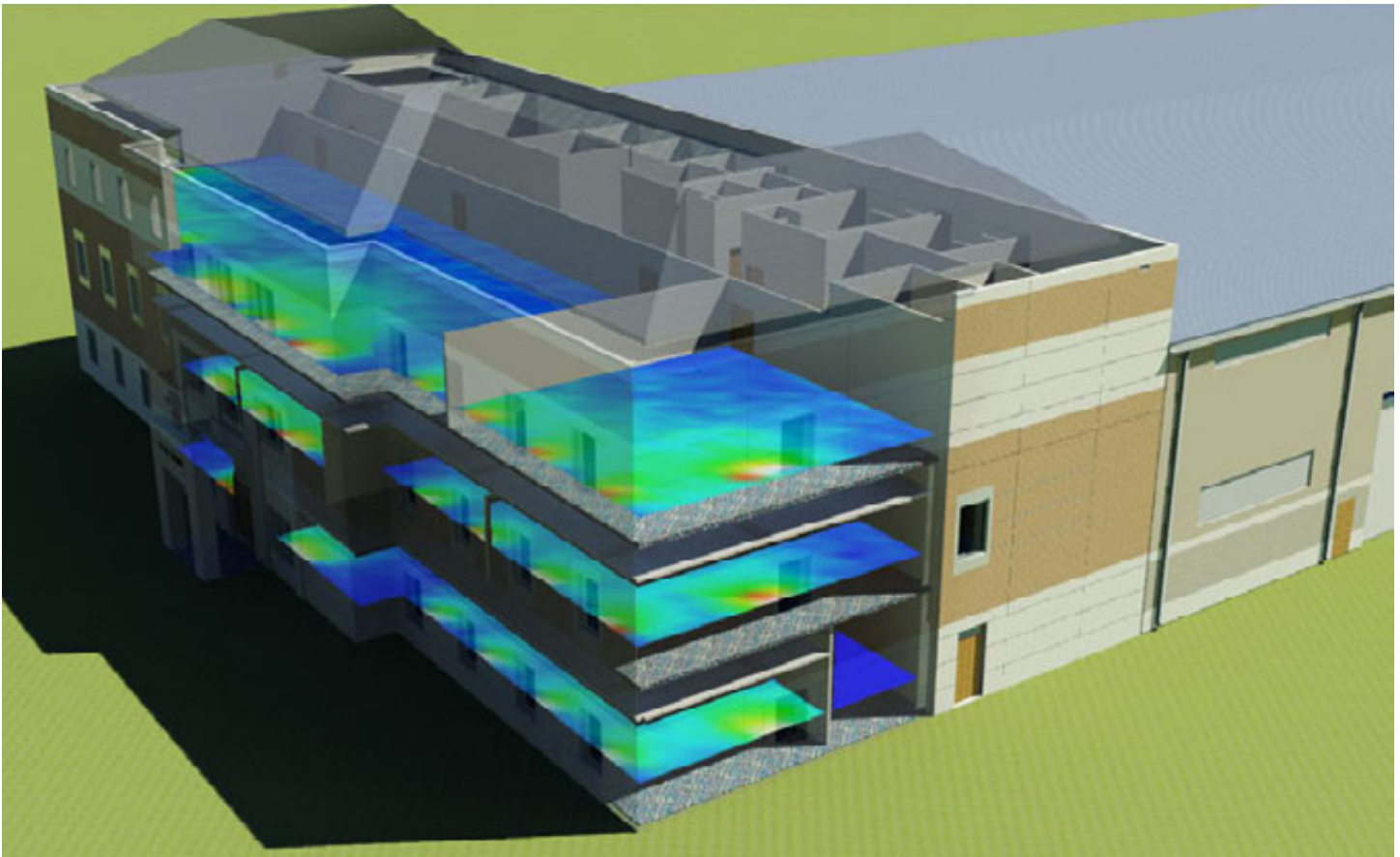
“Using BIM to help predict a building’s performance is simply smart design. Having a well-designed building means beauty, function and performance. BIM helps us to achieve all three.”

Eddy Krygiel
HNTB Senior Sustainability
Manager

BIM Sustainability Practices

By using BIM in all aspects of the design process, HNTB is able to use an integrated model approach to deliver sustainable design services on our building projects. This methodology can be extended to encompass sustainable design, allowing a single point source for model geometry to be fed into multiple analysis packages. HNTB brings a higher level of accuracy and quicker results to help better inform teams about sustainable design. This approach can maximize daylighting and energy efficiency without compromising design, ultimately delivering a better quality space for the building occupants.

Good sustainable design looks to leverage building location, building orientation, and climate to maximize the efficiency of building systems. The many-to-many relationships between these systems can be better tuned through whole building analysis available through BIM. HNTB strives to be on the forefront of sustainable design by working with industry leaders to develop better processes and techniques for design analysis.



Nationwide Building Information Modeling (BIM) Contract No. GS-OOP-09-CY-D-0289

Zones A, B and C

Contact Information

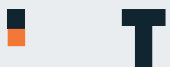
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The HNTB Companies
Architects Engineers Planners

hntb.com



Sustainability Services

HNTB leverages a team of national sustainability experts blended with in-house knowledge to deliver unparalleled sustainable design services. This allows for real-time visualization of the design, coupled with a variety of building analytics including: Sound Transmission Class rating (STC), security zones, spatial and area requirements. Because of this integrated approach, analysis can be derived in a fraction of the time it previously took. This now allows design teams to keep current with up-to-date design performance information allowing the team to make educated decision based on statistical information rather than rules of thumb. This same approach allows HNTB to apply BIM to documenting LEED certification, a key consideration in any new federal or military building project. HNTB rapidly analyzes and verifies a number of sustainable building metrics during design iterations including:

Energy efficiency	Water reclamation
Heat island effect	Building commissioning
Daylighting	Code compliance
Solar radiation	LEED
Water efficiency	



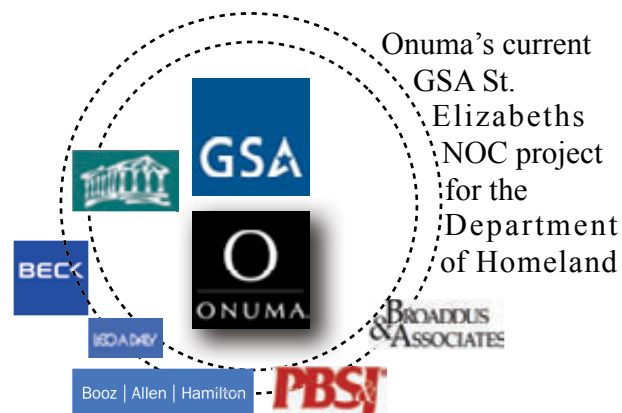
About Onuma Inc.

Under the direction of Kimon Onuma, FAIA, Onuma Inc. has been using BIM on federal government projects for more than 17 years. Kimon is a known industry leader in BIM technologies and has been active with many standards organizations. He is the leading force and vision behind the Onuma team.

Prior to using BIM in the late 80s, Onuma was actively using 3D modeling and databases to manage architectural projects for US Army Corps of Engineers, Air Force and Navy and commercial clients.

The usage of BIM early-on transformed Onuma to a hybrid: architectural/planning and technology company. BIM tools were initially created for use on our in-house projects. Today Onuma is one of the leading architectural firms creating award winning BIM software, the Onuma System. The Onuma System has garnered the 2009 Buildy Award, three AIA Technology in Architectural Practice Awards with the AIA and two Fiatech Awards in 2006 and 2007.

Onuma integrates theory with practice, so we rapidly implement BIM technologies and tools. We use many BIM vendor applications as well as create our own applications tailored to be interoperable through open standards with the other vendors solutions.



Security, utilizes the Onuma System. We use a wide range of tools creating open standards based BIM tools, which has put Onuma in a position to support GSA on BIM related projects. Onuma has provided BIM strategy road maps for the US Coast Guard (USCG) and Smithsonian Institute.

ONUMA has been using BIM technologies for nearly two decades.

Onuma's takes a unique approach to BIM. Rather than isolating the definition of BIM to just a 3D model with data, we take a much broader approach, since the biggest potential value in BIM is to be able to integrate the tools with each other through open standards. The bigger value is in being able to link the knowledge of the various experts in the building industry to BIM. This can only happen if the tools get out of the way, and users can interact directly with the data. We have seen that a mixture of tools and simple to use interfaces that draw in all levels of users to participate in the process is where accelerated value comes into the process. In the end, the tools are just tools, and human knowledge connected to these tools is the real value.

Onuma's BIM Applications

- Onuma Exchange
- COBIE links from Onuma System
- Revit API
- ArchiCAD API
- Web Services
- Web Feature Service for OGC Standard



ONUMA
awarded
three AIA TAP
Awards and
two FIATECH
Awards

Range of Technologies

- GIS
- Model Server
- Web Services

BIM has the potential of supporting full life-cycle project needs. Onuma's experience from previous and ongoing projects demonstrate that data can be coordinated from early planning to facility management.

BIM technologies are developing at a rapid pace. Each development cycle from software vendors adds new features to those yet to be explored by the average user.

Our comprehensive vision not only trains individuals working with BIM, but assures GSA's efforts as a whole, align with industry's emerging technology standards and best practices such as those set forth by:

- buildingSMART alliance
- Construction Specifications Institute (CSI)
- Open Geospatial Consortium, Inc. (OGC)
- National Institute of Standards and Technology (NIST)
- Open Standards Consortium for Real Estate (OSCRE)
- The Lean Construction Institute, (LCI)

Our experience and contributing to the work of the above associations will further enhance GSA's BIM program and assure long term compatibility with industry standards.

Onuma actively participated in buildingSMART alliance's "COBIE Challenge," OGC's Web Services, Phase 4 (OWS-4) Testbed, and the AECOO Testbed.

BIM Pioneers

Our unique combination as architects, project managers and computer programmers, allows us to approach solutions from a very comprehensive, multi-faceted perspective. We remain actively involved with the organizations listed above and contribute to the development of emerging standards. Onuma was the only architectural and software development team that participated in the first GSA BIM Guide in 2006.

As professional practitioners and BIM pioneers, we understand the common chasm between standards and directives versus the way people actually work in the "real world". Our clients' successes can be strongly attributed to our deep understanding between theory and practical application. The work flows and best practices we develop in partnership with our clients provide simple, clear directions for the various individuals performing their specific portion of work while achieving the broad, over-arching objectives from an enterprise-wide point of view. Onuma understands the big picture/small picture work dynamics and we continually evaluate to make sure they are both in constant alignment. We can work with your GSA region to develop BIM procedures, protocols and help assure standards do not become a set of detached, stove-piped directives, but become a useful, clear guide for people to implement.



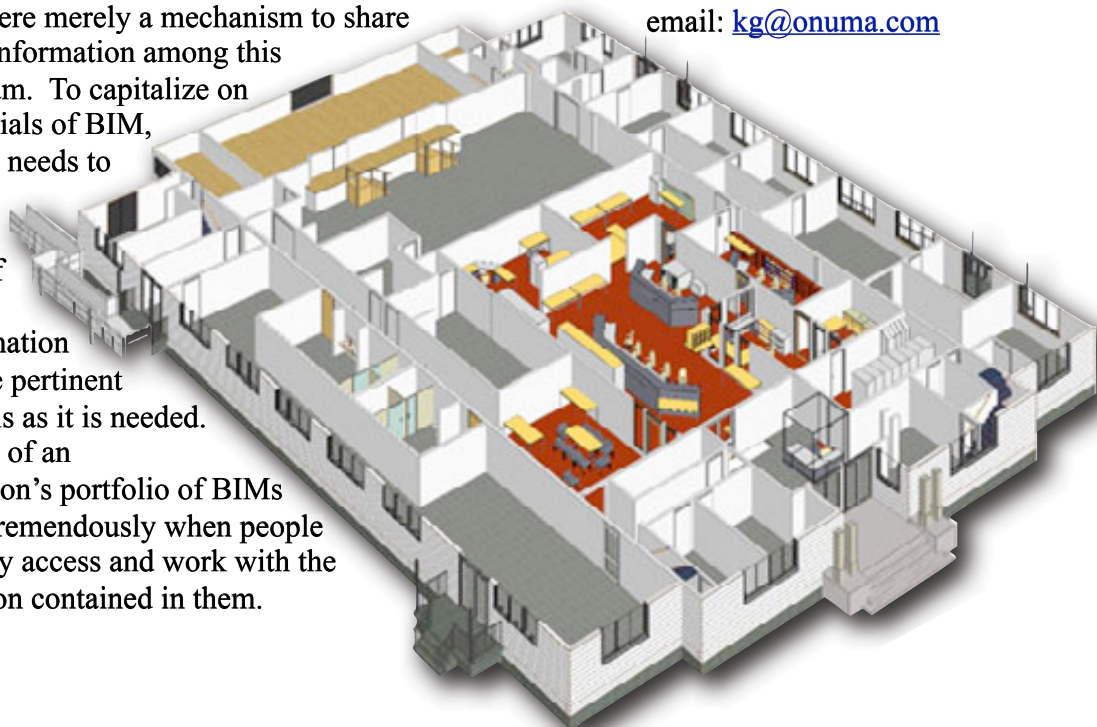
Onuma & Leo A Daly BIMStorm Charrette



BIMStorm™

January 2008 Onuma challenged the building and construction industry to approach BIM technologies and the manner in which professionals collaborate in a totally new paradigm with the first BIMStorm LAX, a 24 hour global event gathering 133 industry professionals from 11 countries in an on-line, hands-on charrette conference demonstrating the potential power of BIM technology tools. The results: 420 buildings totaling over 55 million square feet. What was most impressive was not only measured in the number of BIMs generated, but the ideas, concepts and data that was transmitted from people to people in a single day.

Information regarding site planning, building design, energy consumption, structural framing, cost analysis, facility management and other reports were rapidly being processed, accessed and shared between different subject matter experts. The web-based BIMs on the Onuma System were merely a mechanism to share building information among this virtual team. To capitalize on the potentials of BIM, the model needs to provide a fluid method of accessing the information in it to the pertinent individuals as it is needed. The value of an organization's portfolio of BIMs increase tremendously when people can readily access and work with the information contained in them.



Our Principles and Goals

1. Collaboration and Transparency
2. Interoperability through Open Standards
3. Expand the definition of BIM to Structured data
4. Link BIM to Business Decision Making
5. Make BIM data useful/ accessible to non-BIM processes and users
6. Rapidly Assemble Complex Requirements into Simple Formats
7. Document Decisions in Graphical and Data Centric Formats
8. Stay Ahead of the Technology Curve

ONUMA
awarded
3 AIA TAP
Awards,
2 FIATECH
Awards
&
Buildy Award

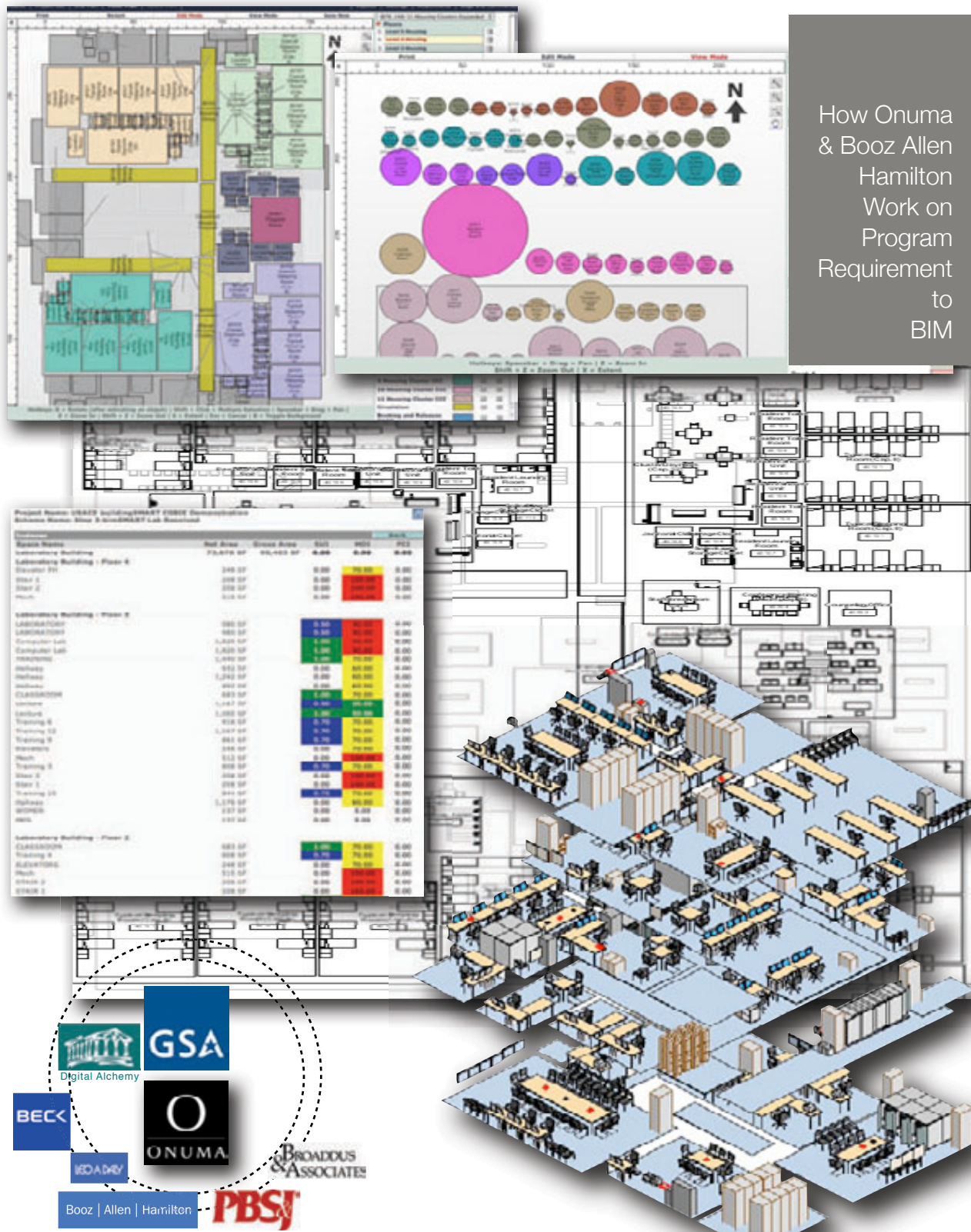
Let Us Bring BIM to Your Project

Onuma Inc.

1055 E Colorado Blvd., STE 500
Pasadena, CA 91106

Tel: 626 793-7400

email: kg@onuma.com





VIEW BY VIEW

EcoDomus
BIM-FM



SAMPLE PROJECTS



Contract: GS-00P-09-CY-D-0291

**Santa Clara Valley Medical Center Replacement Bed Building,
Santa Clara, CA**

Project size and scope: 317,000 sf, 5 Story Bed Building. Central Plant & Site Utilities

Project Cost: \$600,000

As BIM Coordinator/Integrator on the URS team, developed the processes by which the various members of the design team could successfully interface with each other, overcoming difficulties caused by incompatibility of software. Developed standards and procedures and processes for coordination of MEPF within the structural/architectural envelope. Now providing oversight of BIM coordination of the trade subcontractors. The delivery process is using Building Information Modeling (BIM) to resolve “clashes” before contract documents are submitted for plan review and to speed construction. Overseeing the construction team in the application of the BIM process and facilitating communication between construction and design participants



**University of Southern California School of Cinematic Arts,
Los Angeles, CA**

Project size: Consists of 2 Phases. Phase I: 137,000 sf, 4 story + basement. Phase 2: 4 buildings varying from

Project Cost :

Acting as 3D design coordinator, BIM integrator/facilitator, running 3D MEPF coordination meetings weekly. Completed Phase 1, Building A. Working on 4 additional buildings concurrently. Provided interior and exterior visual simulations for first building. Assisting in the commissioning of the 3D as built model for the purposes of facilities management as well as researching software options for use by the FM department.



UC San Francisco Helen Diller Family Comprehensive Cancer Center and Cardiovascular Research Buildings 17 A/B & C, San Francisco, CA

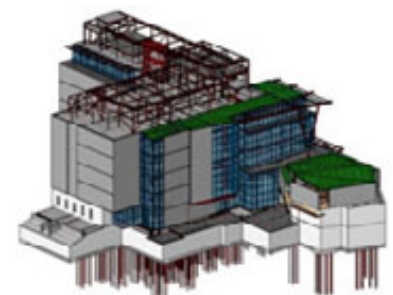
Provided 3D MEPF construction coordination services, BIM integrator/facilitator, running 3D MEPF coordination meetings weekly for the Helen Diller Cancer Center. Played an important role in interfacing between UCSF, design team and contractors. Provided supplemental 3D modeling and coordination for the animal bedding disposal system, the telcom/data and other lab equipment services. Updated the architect’s 3D model as needed. Modeled the concrete structure. Provided 3D modeling and coordination services for the underground utilities around Helen Diller and between Helen Diller and the CVR building. 4D simulation of site logistics, structure and exterior skin. Assisted general contractor in implementation of BIM and set up.



UC Berkeley Li Ka-Shing Center for Biomedical Health Sciences, Berkeley, CA

Project Size: 200,580 sf, 4 storys

Provided a fully coordinated core and shell MEPF model in trade specific software (CADmech, Pipe Designer, Autocad MEP, Autosprink). Provided design coordination between architecture and structure.





TESTIMONIALS

Contract: GS-00P-09-CY-D-0291



Thomas M. Brady
Project Director
Lucasfilm Foundation

"I have worked with View By View since 2001 when we undertook the development of a 3D model for the Lucasfilm Headquarters Project at the Presidio. I was in charge of the design and construction of that project as an employee of Lucasfilm. Since 2006, when that project was completed, I have been and continue to be retained by the Lucasfilm Foundation through a consulting contract with the responsibility for the design and construction of projects.

When we started the development of the Presidio Project, we explored a number of potential firms to assist us to do what, to our knowledge, had never been done on a project of that size or magnitude. View By View demonstrated they not only had state of the art knowledge and capability, that spanned several continents, but demonstrated a willingness to continue to push to find a better way to improve on what we wanted to do. The value they brought to that project saved millions of dollars for Lucasfilm. More importantly, they brought through their efforts and personal commitment, a major step change in how design and construction is accomplished on the West Coast of the US, and perhaps the Country. Over the 4 years we worked on that project we explored and researched what others were doing and realized what we were doing was far ahead of anyone we came into contact. The credit belonged to View By View.

In 2006, when I took responsibility for the development of a new School of Cinematic Arts at the University of Southern California, there was no questioning my mind that View By View would be involved. This time however we wanted our design consultants to take the lead and develop the model as an integral part of the design process. The design firm had never used BIM before and as would be expected, in the first phase, ran into problems. View By View stepped in and provided the coordination between and construction and made the first phase of this major undertaking a success. The design firm has told me repeatedly since, that they would never start another project without BIM and continue to work with view By View on a second phase under a direct contract with them. Since starting the program at USC, the University has taken not only an active interest in the use of BIM, but a leadership position in the development of Facilities Management software directly integrated into the BIM process. View By View has been an integral part of the University core team.

The use of Building Information Modeling has brought significant improvement to our industry, and process, that was many years behind. There are people who were pioneers in that major change. View By View definitely ranks very high up on that list. What many others talked about, they accomplished. They are without a question in my mind the most knowledgeable professionals in their business today and I have nothing but respect for them."

David Sterlace, P.E.
Civil Engineer, Project Manager
Roebbelen Contracting

"The expertise, and foresight, provided by View By View has proven invaluable for both of our projects at the Carlmont High School. France Israel's, and the entire View By View staff's, ability to quickly and accurately diagnose problems has saved us, and the owner, time and money. Their professionalism and conflict resolution abilities provided the lynchpin for our coordination efforts. I would love to work with View By View again, and recommend them for any project."



VIEW BY VIEW

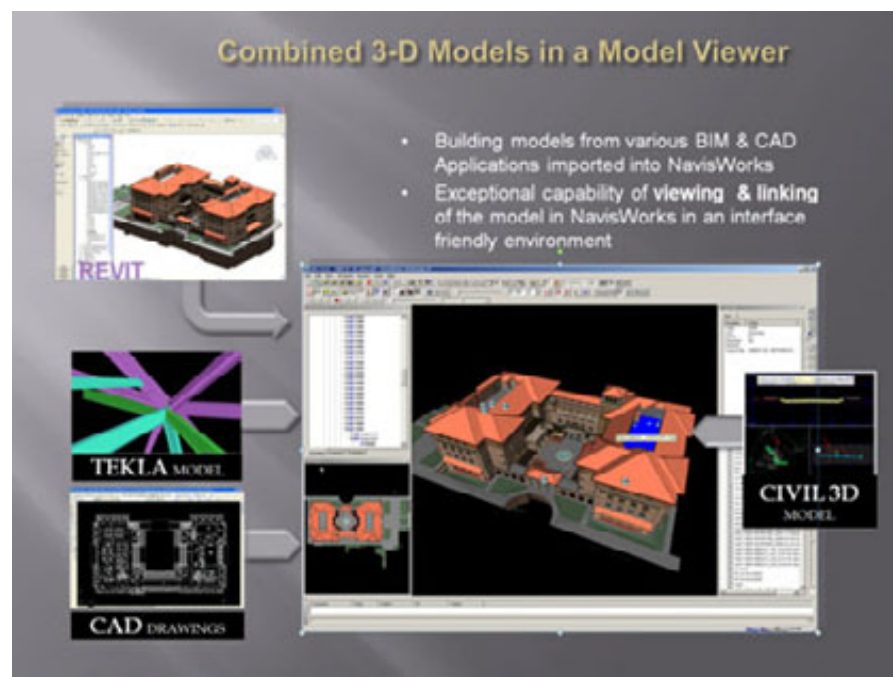
Contract: GS-00P-09-CY-D-0291

EcoDomus

Making Buildings Smart and green Using BIM

EcoDomus, a View By View and Tokmo spin-off, brings benefits of BIM to facility management, operations and maintenance. Our 3D COBIE-compliant BIM software incorporates real-time operations data and integrates with Facilities Management software and Building Automation Systems to provide unmatched business intelligence insights. EcoDomus enables previously impossible opportunities for energy optimization analysis, LEED compliance validation, disaster recovery and remediation, and offers fast and easy-to-use 3D and online interfaces for facility managers and HVAC technicians, commissioning agents and space planners, energy consultants, and many others.

Buildings are "smart" not only when they are loaded with sensors and controls but also when each asset and building element have enough information about them so building owners and managers can make intelligent decisions on how to operate their facility in the most optimal way. If you want to make your building "smart" and "green" you need EcoDomus.



Newsflash:

EcoDomus was chosen as one of the top 10 start-up company in the development of green technologies and was selected to present at GreenNet 2010. The Green Conference for the Internet Technology Industry April 29, 2010 / Mission Bay Conference Center, San Francisco, CA



ZONE B

BIM Services
Nationwide IDIQ Contracts

www.gsa.gov/bim



SERVING GSA ZONE B

WITH SUBCONSULTANTS:



GSA NATIONWIDE BIM IDIQ CONTRACT #GS-00P-09-CY-D-0292

Contact: Kristine K. Fallon, FAIA
(312) 641-9339

Kristine Fallon Associates, Inc.

In 2009, as part of a highly competitive, qualifications-based, nationwide unrestricted solicitation, from over 100 interested vendors nationwide, KFA was awarded a GSA PBS 5-year, \$30 million BIM and Related Professional Services IDIQ contract. This contract #GS-00P-CY-D-0292 is available for all GSA PBS COTR for use in Zone B (Regions 4, 5, 6, 7).

The KFA team is led by **Kristine Fallon Associates, Inc.** with outstanding credentials in Building Information Modeling for design and construction, a long track record of participation in AEC industry standardization initiatives, successful BIM experience in the GSA 3D-4D BIM Pilot Program, as well as award-winning implementations of electronic Project Management (ePM) solutions. KFA assembled an outstanding team of professionals to ensure specialized expertise in areas such as 3D laser scanning, energy modeling, commissioning, value engineering, cost management and custom software development.



This team's combined capabilities offer outstanding expertise and value to GSA PBS and we include each member's qualifications related to delivery of the Nationwide BIM IDIQ contract for consideration of potential task order requests.

Kristine Fallon Associates, Inc. (KFA)

For over 16 years, Kristine Fallon Associates, Inc. has been providing IT consulting and services to the design and construction industry. Clients include public agencies, corporate facility groups, design and construction firms and technology suppliers. Our mission is to bring in-depth domain understanding and expertise in mission-critical computer applications to our clients.

KFA has a history of award-winning technology implementations, extensive program management experience, and a reputation for quality and performance. In a 2008 Dun & Bradstreet Open Ratings Report, KFA scored an Overall Performance Rating of 93 out of 100 and was certified as a "Top 20% Performer" relative to similar companies evaluated during the same period. The highest ratings included customer service, reliability, and responsiveness.

KFA has followed the evolution of intelligent building modeling technology for over a decade. During the 1990's KFA developed academic programs using advanced modeling products, evaluated the maturity and scalability of "BIM" systems for the Spallation Neutron Source project at Oak Ridge National Lab, and assisted Revit Technology in market research and feature prioritization prior to their initial product release.

KFA is currently assisting the **National Institutes of Health** in developing as-built BIM deliverable requirements and the related Division 01 specification language.

KFA successfully completed two projects under the **GSA PBS OCA 3D-4D-BIM Pilot Program**. One involving the modernization of the 1.2 million square foot Richard Bolling Federal Office Building in Kansas City, Missouri and the other schematic design of the 30,000 square foot Land Port of Entry facility in Madawaska, Maine.

KFA was contracted by **Walsh Healthcare Division** to recommend BIM strategy and software and provide BIM modeling and MEP trades coordination services. KFA worked with Walsh on for four projects in four

states, with four different teams, using three different project delivery methods, and over 20 software products. Please visit www.kfa-inc.com for additional information about KFA.



combines laser scanning expertise and BIM experience to provide clients efficient, quality as-builts, surveys and a variety of field services. Coast 2 Coast is constantly evolving to meet the ever changing needs of GSA as part of the KFA Nationwide BIM IDIQ team.

From design support in 2D to 3D modeling and BIM consulting to construction management collaboration or as-builts, C2C offers a wide range of professional services to accommodate GSA Public Buildings Service needs. Always pushing the technological envelope, C2C can also bring to bear a variety of advanced geospatial services such as GPS and ground penetrating radar. C2C's extensive experience makes it possible to apply proven best practices, and achieve unmatched efficiencies in the delivery of exceptional survey products and support services. Additional information about Coast 2 Coast's experience can be found at www.c2csurveys.com.



With over 60 years experience in all aspects of design and construction, Faithful+Gould brings added value to the KFA team by providing integrated BIM-based cost estimation, 4D scheduling and construction simulations, change order review and value engineering studies to support investment decisions at any phase of a project's life; budgeting and planning through design and implementation.

F+G has extensive GSA experience, including an assignment to analyze six federal courthouses and seven federal buildings around the country to develop a cost benchmark system. In addition to their ISO 9001:2000 quality management system, outstanding performance, domain expertise and skill with the relevant technology tools, F+G is also an information aggregator and manager. F+G takes pride in their data management and for the past 20 years have been systematically collecting data to assist with their services and maintains one of the most comprehensive databases of unit costs outside of the national publications.

F+G has experience working with Building Information Modeling software like Autodesk Revit, Bentley, ArchiCAD, ONUMA Planning System, Solibri, Autodesk QTO, Autodesk NavisWorks, and Innovaya Visual Estimator.

www.fgould.com



is a 22-year old, large, diversified, engineering and design firm dedicated to sustainable design and the pursuit of excellence using the latest technologies. Primera takes pride in always being on the cutting edge of technology – setting the standard for peers to measure themselves against. Specifically, Primera has been involved with BIM since the early development of MEP BIM capabilities.

Primera's president is also a board member and officer of the Council of American Mechanical and Electrical Engineers (CAMEE) that has addressed the adoption of Building Information Modeling (BIM) platforms for the MEP industry. This early exposure to BIM has allowed Primera to be among the first group of MEP firms to evaluate Revit and begin to incorporate BIM into its standard design practices.

Primera has in place an ISO 9001:2000-Registered Quality Management System (QMS), that includes a Quality Manual and Project Delivery Manual to ensure that the team has the methods and means of achieving the highest level of quality on all their projects.

Primera has been an active member of the U.S. Green Building Council since 2000. Their commitment to sustainable social, economic and ecological practices is led by a team of LEED® (Leadership in Energy and Environmental Design) certified professionals who are dedicated to energy-efficient and environmentally-conscious design that meets the highest performance standards for their clients.

For modeling the most energy efficient systems or systems upgrades, Primera uses several tools to analyze shading coefficient, glass-library data and layer-by-layer methods for fenestration analysis. The firm has an exceptional record of successful energy modeling projects and has performed detailed analyses of state-of-the-art building design technologies using the most sophisticated building energy use simulation techniques.

Please visit www.primerachicago.com for additional information about the firm.



Solibri develops world-class BIM applications that review, assess and analyze the quality of 3D BIM models. The focus is on the information residing in the model, rather than purely on the 3-D geometry.

Solibri's role with the KFA GSA Nationwide BIM IDIQ team is to ensure that models can be checked using the Solibri Model Checker and the relevant GSA-related rules are understood and effectively executed. Solibri will also be supporting the KFA team by providing Solibri Model Checker training and assisting with the analysis of the project-related models, as well as providing new software applications. Visit www.solibri.com for additional information.

The KFA team is available to assist GSA PBS Zone B in effective application of Building Information Modeling tools in design, construction and facility management.

KFA's GSA PBS Nationwide BIM IDIQ Contract Number is GS-00P-09-CY-D-0292.

Please contact Kristine K. Fallon, FAIA at 312.641.9339.





NATIONAL 3D LASER SCANNING SERVICES



GSA Contract Holder
Contract GS-00P-09-CY-D-0296

One Team. Infinite Solutions.

Team
Stantec

THE TOP CHOICE FOR

3D LASER SCANNING SERVICES



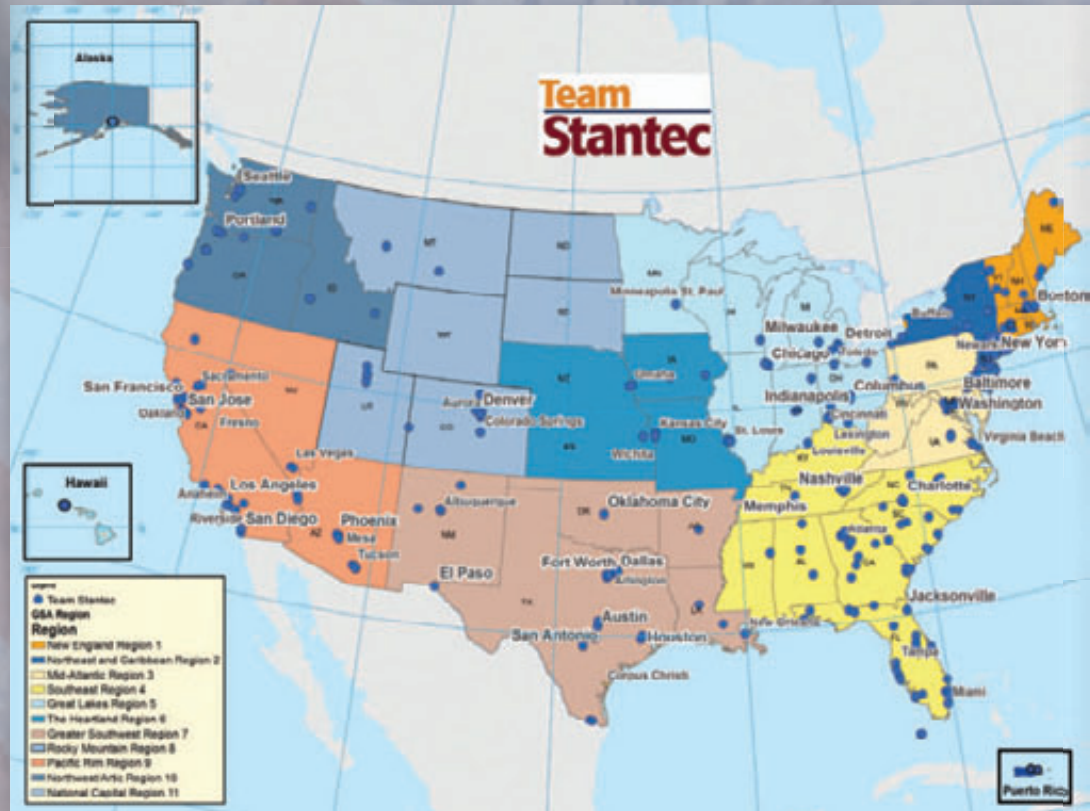
All of our team members hold their staff to the most stringent guidelines and principles in the practice of Survey and Geomatics, 3D Laser Scanning, and BIM. With the quality and quantity of our team resources, we are the only team capable of providing multiple scan crews simultaneously across all GSA regions. Our team is familiar with the effort required to mobilize on projects throughout the nation as we have been involved with the execution, planning, and coordination of 3D Laser Scanning projects in all regions of the country, including remote locations.

TEAM STANTEC HAS GSA COVERED. Our efforts are aided by the 200+ team offices that will be available to team members to conduct business related to tasks issued under this contract.

Team Stantec



Taylor Wiseman & Taylor
ENGINEERS SURVEYORS SCIENTISTS

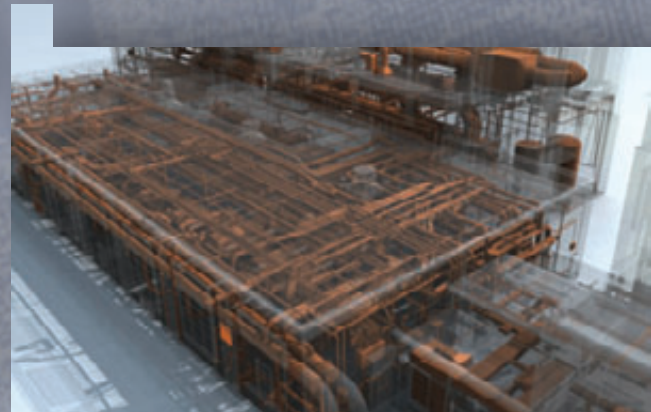
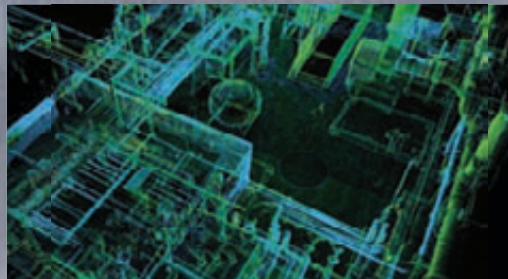
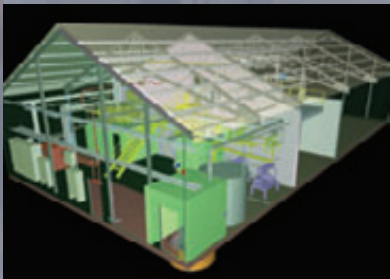
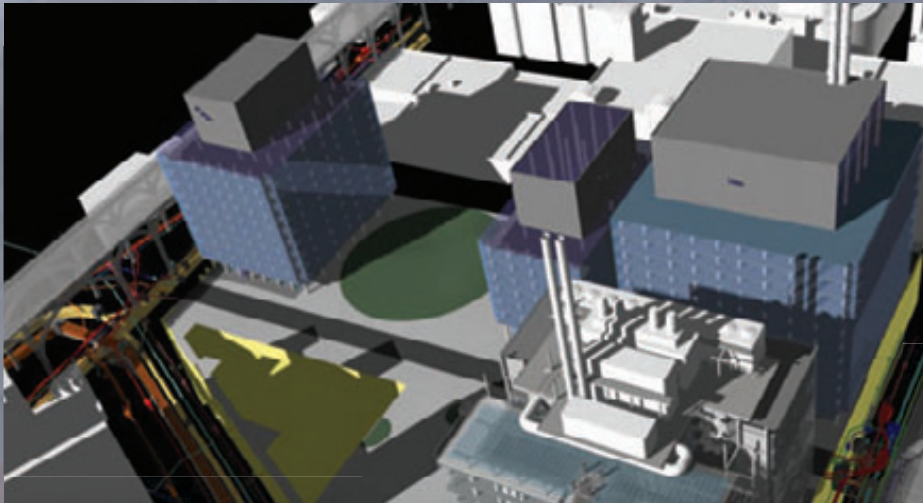
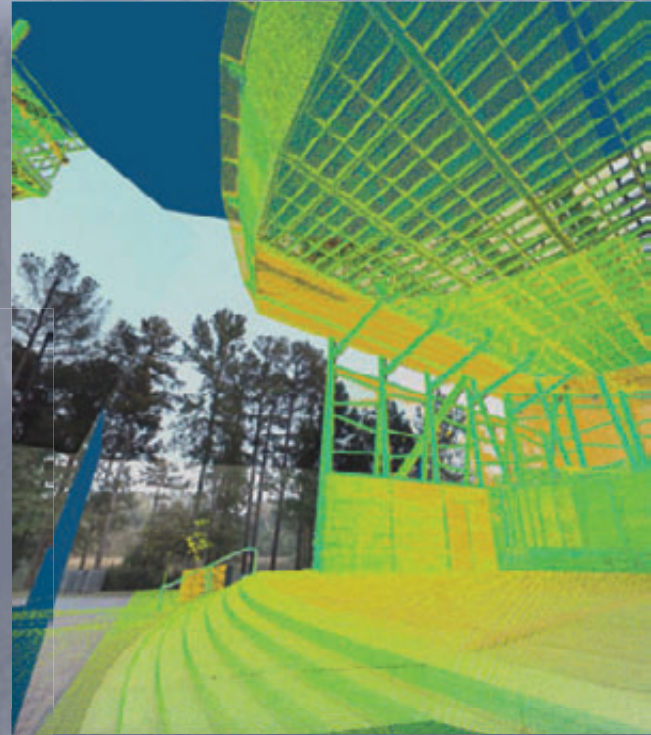


TEAM STANTEC brings the range and reach of professional resources to support your project needs. Our team members have previous GSA experience that includes assisting in the establishment of guidelines for 3D Laser Scanning and providing BIM information integration. Our industry experts include the earliest adopters of 3D Laser Scanning technology, who have over 10 years of experience in pioneering new ways of pairing the technology with sound, proven conventional survey methodologies. The balance of our team brings QA/QC, BIM data development, and information management and security to insure the highest quality deliverables available anywhere.

LASER SCANNING PROFESSIONALS

Our team is trained in all aspects of 3D Laser Scanning and conventional surveying.

DEMONSTRATED EXPERIENCE



CLOCKWISE FROM TOP LEFT

Detroit College of Law
Detroit, Michigan

Booth Amphitheatre
Cary, NC

Covidien
St. Louis, Missouri

Columbia University
New York, New York

McNamara Federal Building
Detroit, Michigan

White Oak Central Utility Plan
White Oak, Maryland

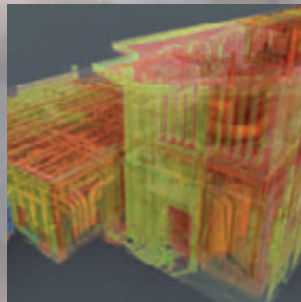
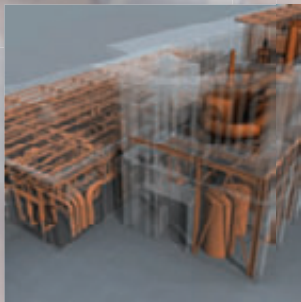
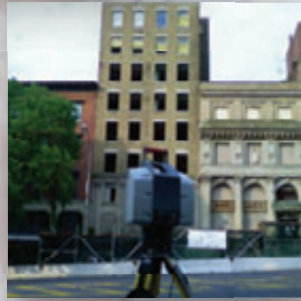
Covidien
St. Louis, Missouri

STANTEC • CRITIGEN • OPTIRA • TWT • CHA • ADEPT • QINETIQ • CH2M HILL
The Top Choice for 3D Laser Scanning Services & BIM Experience

THE EXPERIENCED
NATIONAL CHOICE
FOR 3D LASER SCANNING



Team
Stantec



Experience

- Over 10 years experience
- Contributed to GSA standards
- Recognized leaders in 3D Laser Scanning and BIM
- Experience with secure compounds/facilities
- Experience with 3D Laser Scanning projects in every GSA region with all types of facilities
- Flexibility, with experience with projects of all sizes
- Unrivaled professional staff (Surveyors, Geodesists, Architects, MEP Engineers)

Coverage

- Over 200 offices covering all GSA regions
- National capacity to deploy multiple scanning teams in all GSA regions
- Synergies across GSA regions contributing towards national standards

Quality

- QA/QC methodologies setting the standard
- Multiple hardware and software platforms enabling best practices
- Experience utilizing 3D Laser Scan data to check/create BIM

To learn how **TEAM STANTEC** can work together innovative, integrated, and sustainable solutions

Christopher M. Zmijewski
Principal Contractors Represent
161 Gaither Dr, Suite 205
Mount Laurel NJ 08054
Ph. (856) 234-0800
christopher.zmijewski@stantec.com



BIM Services

for Building Renovation, Reuse, and Sustainability Projects



Laser Scanning & Modeling



Feasibility Studies



Risk Assessments



Blast, Collapse, and Seismic



Site Surveys and Modeling



Fire Safety Assessments

ROLF JENSEN & ASSOCIATES, INC.
FIRE PROTECTION CONSULTANTS



Environmental Impact Assessments



Energy Conservation Audits



Construction Simulations and Animations



The Team

Quantapoint and Martinez+Johnson have assembled a multi-disciplinary team to respond to BIM needs for the GSA.

The team combines specialists in laser scanning, CAD modeling, and consulting services to provide an integrated service delivery capability that encompasses a large variety of Design, Construction, and Planning services.

Our services are tuned towards large, older facilities requiring substantial renovation or repurposing, however new construction also benefits from our abilities to quickly locate construction errors and discrepancies from the design intent.

We have specific expertise in historical structures, ornamentation, restoration, and large complex buildings.

The tables at the right indicate the services we can offer matched to the team member with the best expertise to help the GSA achieve their goals.

For inquiries regarding services, support, or general questions please call or email:

Lisa Buff
Director of Government Services
lbuff@quantapoint.com
Mobile: 248.310.3200

Matt Gastgeb
VP Operations
mgastgeb@quantapoint.com
Office: 724.825.4204
Mobile: 412.477.4126

Design & Construction Stage Services Matrix	Quantapoint	Martinez+Johnson	Arnold Animations	Certainty 3D
3D Laser Scanning	●			●
Clash Detection		●		
Constructability Analyses		●	●	
As-Built BIM Models	●	●		

Planning Stage Services Matrix	Quantapoint	Martinez+Johnson	EMO Energy Solutions	Rolf Jensen & Assoc.	Protection Engineering Group	AMT Engineering	Hinman Consulting Engineers
3D Laser Scanning	●						
BIM Models	●						
Feasibility Studies		●					
Environmental Impact Assessments						●	
Program Development Studies		●					
Building Engineering Reports		●					
Master Plan Assessments		●					
Value Engineering		●					
Site Selection Studies		●					
Historic Preservation Plans		●					
Energy Conservation Audits			●				
Fire Safety Assessments				●			
Risk Assessments					●		
Blast Resistance Studies							●
Progressive Collapse Assessments							●
Seismic Safety Studies							●



Our Technology

The Quantapoint team blends technology and experience to provide first-in-class capabilities to the GSA.

Quantapoint is a vertically integrated service company that is a leading innovator in laser scanning technology and its application to building documentation.

Our SceneModeler Laser Cameras were the first to scan 360 degrees and were designed specifically to digitize buildings.

Quantapoint patented registration technology enables complex buildings to be digitized and seamlessly registered together without the need for secondary survey instruments. This is especially useful when dealing with close spaces – such as above ceiling grids.

Our Laser Image and Laser Model technologies enable intuitive usage of laser scan data for project teams without the size and clarity issues that occur with point cloud based representations.

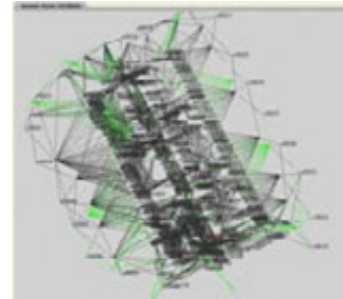
Quantapoint 's software products - PRISM and QuantaCAD - integrate laser scan data with AutoCAD, Revit, Microstation, and other popular design software.

Finally, our experience of 19 years and 1,400 projects enables us to understand how to scope and execute projects that deliver results for a construction and design project team.

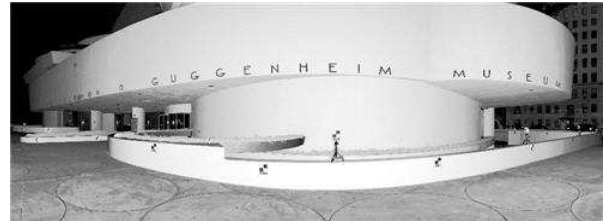
Quantapoint maintains a fleet of 21 laser scanners



SceneMerge technology registers data together fast



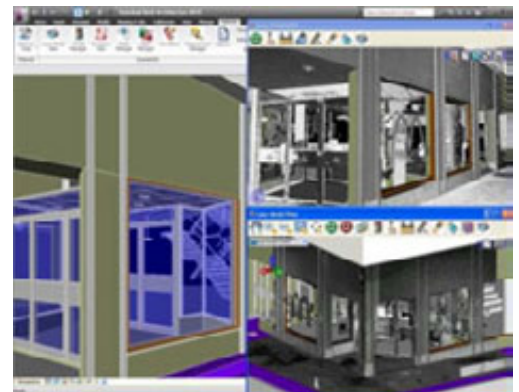
Laser Images provide photo-realistic 3D data



Laser Models are solid, high resolution as-is models



QuantaCAD provides integration with Revit





Our Experience

Quantapoint has been performing laser scanning services for architects, engineers, and constructors for more than a decade.

We have documented hundreds of buildings including many of the most prestigious facilities in the country – including MOMA, the Smithsonian Castle, Chicago Art Institute, US Capitol, Monticello, and many others.

Quantapoint employs talented specialists who can produce 2D or 3D deliverables to meet GSA needs including plans, sections, elevations, 3D exterior models, renderings, 3D interior models, and HABS documentation.

Our modeling team has significant experience with Revit and BIM creation from laser data and we maintain the only software currently available that integrates laser data to the Revit modeling process.

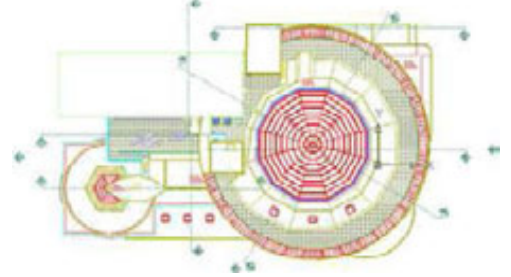
We work nationwide from service centers located in Pittsburgh, Houston, and Los Angeles and maintain a fleet of 21 laser scanners which are continually calibrated and maintained to produce high quality results.

Our field teams are all thoroughly trained, drug tested and background checked and work to our high corporate standards for work ethic, attitude, and safety.

Exterior Modeling and Rendering



Plans, Sections, and Elevations



Interior Modeling and Model Validation



MEP Modeling



HABS Drawings and Historical Documentation





3D Laser Scanning & BIM Consultants

Company Overview



PHAROS Consulting LLC is leading the Surveying and Mapping by offering a full range of high tech solutions and delivering unparalleled products our clients. Whether it is a common survey task or a detailed 3D model PHAROS is able to provide the on time and budget conscious products that exceeds our clients needs.

PHAROS was created with the idea that surveying has evolved to encompass more than the historical connotations of land transfer and paper maps. PHAROS believes that utilization of technology is key to project and timely cost effective solutions.

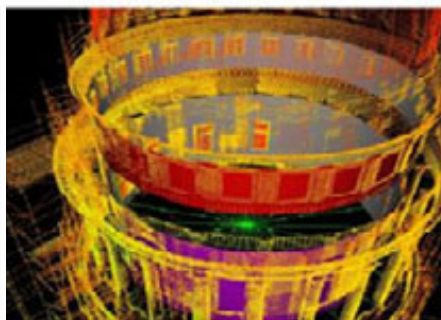
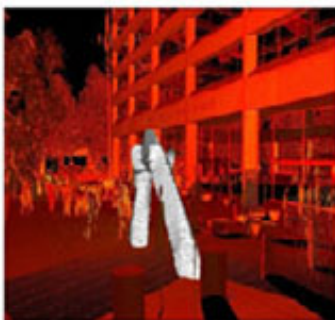
Allow PHAROS to show you how our services can your projects from design build out!

About Us

When PHAROS was created the owners recognized that there was a need for change in the mapping community. In order to realize this PHAROS had to create a new vision for mapping services. No longer confined to the standard doctrine of static deliverables PHAROS has been able to offer new and valuable services to its clients.

PHAROS is dedicated to communicating with and understanding its clients' needs. PHAROS understands that its clients need to communicate their offerings to a world of visually inspired customers. Therefore PHAROS delivers a product that can be used throughout the lifecycle of projects. Utilizing the latest in surveying technology allows PHAROS to enhance its services with timely and cost effective deliverables.

Once field information has been obtained PHAROS then embarks on creating a finished product customized to the client's needs. Whether it is a basic 2D site plan or a complex 3D model that is required, PHAROS will evaluate and work with their client to insure a maximum return on investment can be realized.



3D Laser Scanning Services & BIM Support IDIQ

Contract #
GS00P-09-CY-D-0298
Small Business

Zone A
Region 1, 2, 3, & 11

Contact

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Jeremy Jones
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Principal

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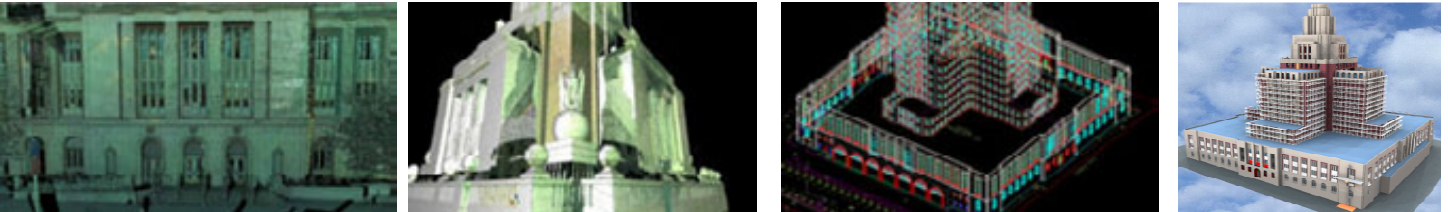
www.pharos-us.com

Project Experience

The project team has a wide ranging background and experience level dealing with large scale facilities to small site artifacts. The following is an abbreviated list of projects similar in nature to the GSA's portfolio of projects.

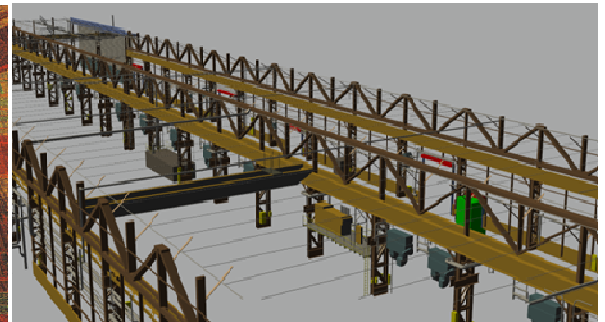
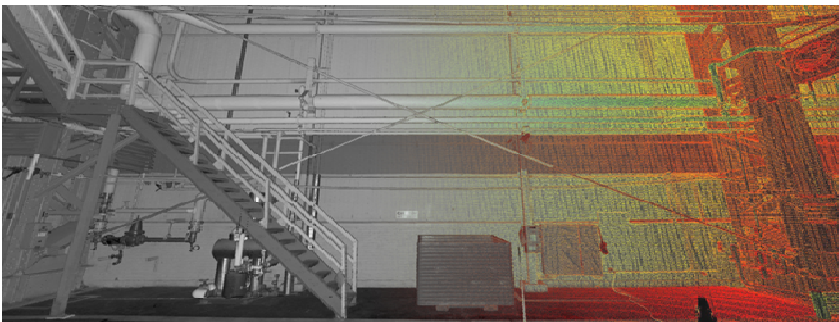
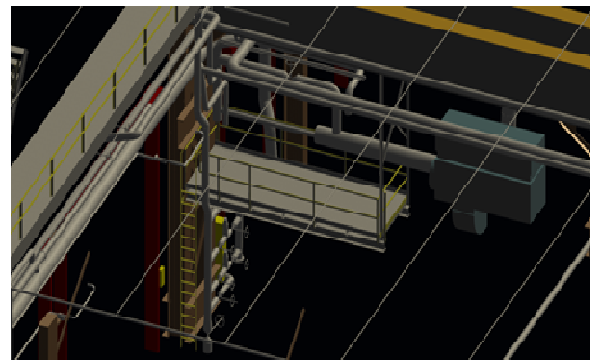
US Custom House

Performed 3D laser scans of a 17 story building for the purposes of providing an accurate current condition record of the building to aid in repair and alteration. Scans were performed from multiple roof levels to document windows and other architectural elements in greater detail. A BIM was created to be used to aid in tenant coordination during construction.



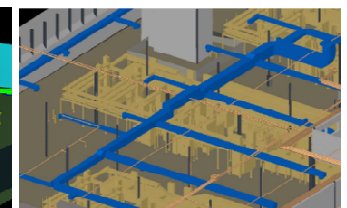
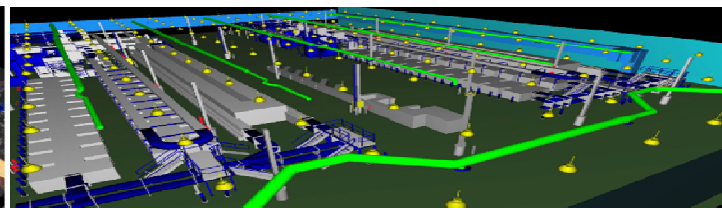
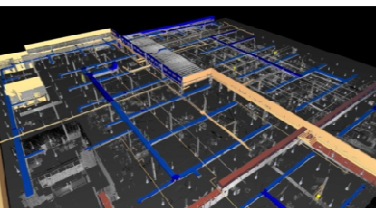
Boeing

Facility age and lack of as-built documentation led to the scanning and modeling of all the structural and MEP equipment throughout the facility. The intention was to update the HVAC system as well as design a mezzanine into a portion of the facility. The need for the designers to have accurate data to work from was paramount due to a compressed time schedule established by the client. Minimal interruptions to facility operations was a requirement therefore field work was performed in off peak hours to reduce impact to the project site. Staged deliverables were created and given to the designers to insure main structural components were available for design to begin.



United States Postal Service

The client was attempting to install new multi million dollar sorting equipment. Due to the out dated or incomplete drawings of a the facilities, installation of these new systems was running into major setbacks and delays. It was determined through client/consultant meetings that laser scanning and basic geometric modeling of the current facility was the proper methodology to solve this situation. Once this was accomplished the sorting system was converted from 2D drawings into a 3D element then overlaid into the facility and interference detection was preformed to detect field problems before the install was to occur. When the install was complete this information was turned over to facility management for integration into their management software and maintenance operations.





Rene P. Van Kersbergen, PSM
Principal in Charge



Jeremy Jones
Program Manager



Shane Loyd, PLS
Owner of The RLS Group, LLC
Process Specialist

Jordan Brandt
Co-Founder of Horizontal, LLC
Collaboration Specialist

Resource Members

The synergy between PHAROS and other 3D laser scanning & BIM consultants across the nation allows for greater depth of the talent pool that can be made available to GSA.

Our Resource Members for Zone A Include:

Mission

The PHAROS team is available as a long term partner in GSA's movement to the utilization of 3D processes that enhance the management and operation of its assets.

www.pharos-us.com

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ZONE A

ZONE B

ZONE C

3D Laser Scanning
Nationwide IDIQ Contracts

www.gsa.gov/bim



GSA Public Building Service Nationwide Laser Scanning Services

Zones A, B, C

CoignAMT has assembled some of the most experienced personnel and created strategic partnerships with leading firms across the nation to create a diverse team capable of delivering high quality as-built information through the use of High Definition Laser Scanning (also known as Terrestrial Lidar).

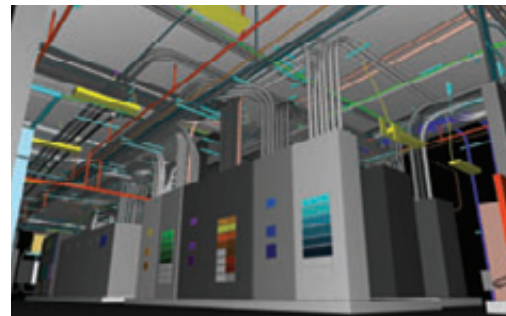
This contract supports the new construction, renovation, and modernization initiatives of the GSA Public Building Service. Project sites will involve federal offices, courthouses, border stations, laboratories, warehouses, and childcare facilities, among other types of real property. Services being provided by CoignAMT under this \$6 million base year contract with four one-year options will include:

- Documentation of facility interior/exterior conditions and systems utilizing 3D laser scanning technology
- Transformation of point cloud datasets into BIM
- BIM that encompass the facility life cycle (planning, design, construction, operations, maintenance, rehabilitation, and divestiture)
- Subject Matter Expert support for architectural design; mechanical, electrical, and plumbing (MEP); and structural and civil engineering
- Visual, geospatial and engineering analysis
- Development of Best Practices relating to laser scanning, building information modeling and facility management
- Business processes improvement through expanded use of technology and comprehensive facility life cycle management



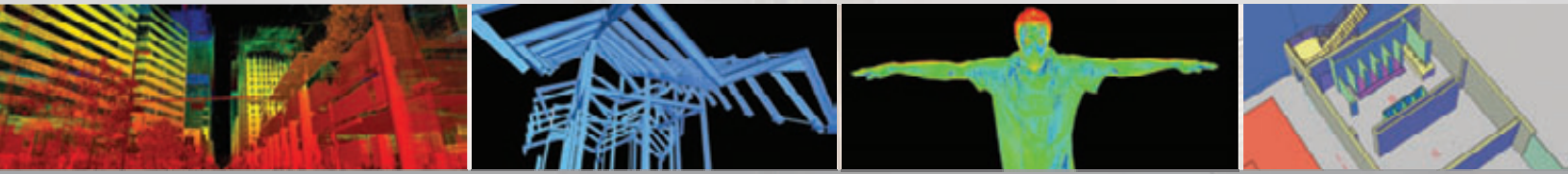
Contract Holder
Contract GS-00P-09-CY-D-0299

Contract Manager: Gary T. Sheets Jr.
GSheets@CoignAMT.com



TEAM MEMBERS





ONE SCAN, MANY USES

Terrestrial Lidar provides highly detailed as-built information, reducing site visits and establishing a complete baseline for life-cycle asset management needs. In an age when information plays such a critical part of daily operations, laser scanning provides a cost effective alternative to re-surveying. With extensive laser scanning and conventional survey experience, Team Coign works closely with our clients to identify potential benefits that extend the value of the point cloud beyond immediate needs.

NATIONWIDE RESOURCES

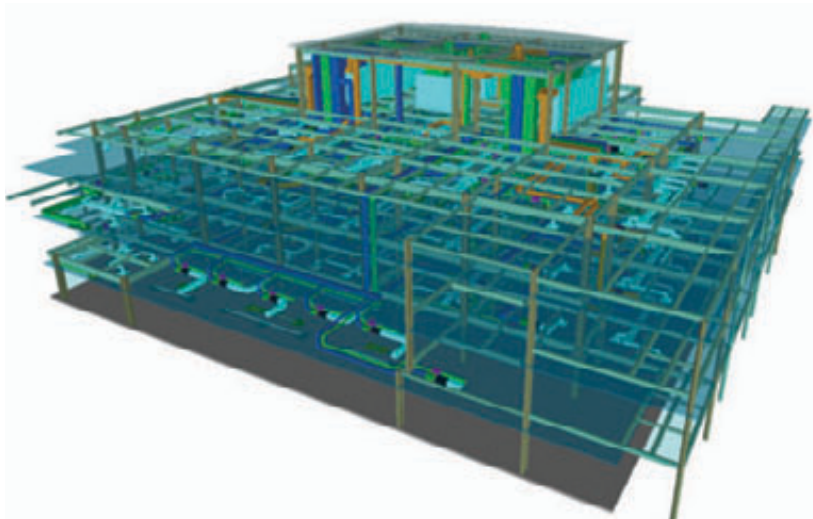
Team Coign's personnel have multi-discipline backgrounds including: Architecture, Oil and gas, Petrochemical, Civil, Transportation, Building Information Modeling, 3D Modeling/Visualization, GIS, Construction Management, Planning and Design, Bridge/Structural Analysis, Database Design, and Asset Life-Cycle Management. Allow us to help strategize your data collection and asset management solution.

AS-BUILT DOCUMENTATION

Capturing accurate as-built documentation of existing buildings, structures, and sites in a timely and cost-effective manner has always been a challenge. Construction drawings, when available, do not always reflect true "as-is" conditions and traditional as-built collection methods lack the accuracy and detail needed by today's architects and planners. Utilizing the latest laser-scanning and post-processing technologies, Team Coign continually improves our collection and feature extraction processes to deliver 3D data in less time resulting in significant cost savings over traditional collection technologies.

PROVEN METHODS TO SUPPORT FACILITY MANAGEMENT

Our methodology applies the most efficient process to provide the "right information". Proven quality control procedures are applied with the latest in feature extraction technology to provide information on time and on budget. BIM, CAD, GIS, and associated life-cycle data sets are delivered to our clients exacting standards and integrated with a variety of Computerized Maintenance Management Systems (CMMS) to extend the facility life cycle.



Implementing Strategy ... Realizing Vision



Pittsburgh
Colorado Springs
Houston



Core Services

ASSET INVENTORIES

Inventories serve as the foundation for well-informed, cost conscious decision making, and support recurring assessment, planning and programming efforts. Reliable inventories enable effective operations and maintenance plans, reduce response times and aid troubleshooting efforts.

Developing a reliable inventory can be a data intensive process. The up front effort pays off by reducing redundant assessment, and sharing critical information throughout the organization. Our Inventory data services include:

- Geomatics & Photogrammetry
- High Definition Laser Surveys
- 3D & 4D Modeling
- CAD & BIM As-built Preparation
- Web Based / Enterprise GIS
- Application & Database Development
- Document Management Systems

Associated Services Include:

- Inventory Audit
- Real Property Validations
- Facility Utilizations Surveys
- Condition Assessment
- Equipment and Part Inventories
- Data Standardization & Conversion

O & M SUPPORT

Today's Facility Managers and Operators face social, economic and environmental challenges. Every activity and action taken has an impact and often takes years to truly understand if the right choices were made.

O&M procedures are enhanced through proper information management throughout the facility life-cycle. From initial building commissioning and acceptance, facility managers require accurate and up-to-date facility information that supports planning, and engineering, maintenance as well as unique tenant requirements.

CoignAMT staff provides the required skills to guide the O&M process from data base-lining and validation to definition of preventive maintenance procedures and business process updates to implement those procedures.

Associated Services Include:

- Preventive Maintenance
- Service/Work Order Management
- System Commissioning
- Energy Audits
- Logistics Management
- Inventory Control
- CMMS Integration

ASSET STRATEGIES

Strategies identify areas in need of improvement, define priorities, and alternatives, and forecast impact on an organizations vision. A well developed strategy includes a detailed knowledge of current operational practices balanced with accurate inventory of capital assets, their condition, and mission criticality.

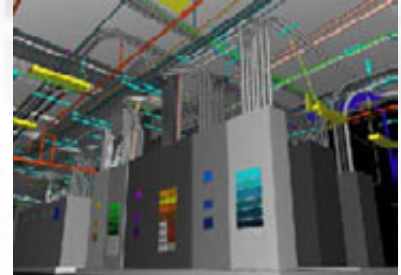
Strategic facility management also requires a clear understanding of risk. Risk is most often recognized through operational downtime and may come from many different sources including equipment reliability, utility capacity, contingency planning, and staff resources. A sound asset strategy must provide a framework to understand risk sources, have the ability to monitor performance, and take prompt action to mitigate risks.

Associated Services Include:

- Business Analysis
- Capital Investment Strategies
- Life-Cycle Cost/Total Cost of Ownership
- Performance Metrics
- Process Improvement
- Program Audits and Management
- Risk Assessment and Mitigation
- Project Portfolio Management

FACILITY MANAGEMENT DATA ACQUISITION, GSA PBS, SUITLAND, MD

CoignAMT is supporting the GSA Central office with High Definition Laser Scanning, equipment and building system identification, data extraction, and creation of a Building Information Model (BIM) that will be populated with building system information for life-cycle facility management purposes. This deliverable is a highly accurate 3D BIM depicting facility configuration, equipment objects, piping runs, and up to 15 attribute elements about each object. The project will also identify best practices for data acquisition, validation, and transformation into BIM and export to Maximo, the on-site enterprise maintenance management system.



MAXIMO AND ORACLE UPGRADE, ABERDEEN PROVING GROUND, ABERDEEN, MD

Aberdeen Proving Ground (APG) is home to nine (9) major commands and supports 70 tenants, 20 satellite and 17 private activities housed in nearly 15-million square-feet of facility space. CoignAMT is currently supporting the Asset Management team at Aberdeen Proving Ground through the systematic upgrade of its enterprise asset management system, Maximo. This system supports base-wide planning, engineering, maintenance, and public works programming functions, as well as energy management through enhanced building metering and automation systems. Once completed, the update of this integrated system will enable enhanced Maximo workflow capabilities, improve service desk processes, support an accurate inventory of real property, streamline reporting, and enhance data exchange between the service desk intranet applications and the Army's Integrated Facility System (IFS).

BOCC PROGRAM ASSESSMENT, ABERDEEN PROVING GROUND, ABERDEEN, MD

Conceived as the nerve center for operations and maintenance activities across the installation, APG's Building Operations Control Center (BOCC) utilizes state of the art technologies to pro-actively identify and mitigate problems with critical infrastructure assets. The BOCC is also focused fulfilling the Army's Energy Strategy through reduction of energy waste, and optimization of energy production and distribution systems. CoignAMT staff conducted a program assessment of the BOCC mission with a thorough review of existing efforts, visioning for future BOCC initiatives, existing and future state gap identification, and development of a risk analysis summary that highlights key focus areas for the program.

LEVERAGING LEGACY DATA WITH POINT CLOUD INVESTMENTS



CoignAMT has partnered with iQsoftlab to extend the value of your scanning investment. ScanManager® provides a comprehensive view of point cloud information, and connects it with legacy CAD and Facility Management information. This unique approach helps build the business case for the long term use of point cloud information with other live-cycle data.

- Link asset FM Data to the actual 3D asset location
- Improve estimates with highly accurate 3D measurement and spatial analysis tools
- Validate CAD information with point cloud as-builts
- Desktop and Browser Interfaces



Beck Technology

Innovation in All Dimensions





Beck Technology, Ltd. was born from The Beck Group, a firm that combines architecture, construction, technology, and development to deliver a uniquely efficient integrated project process. Beck Technology is unique among industry firms because of the larger company with which we are affiliated. Our understanding of the entire building process, from design through construction, and most importantly the integration of technology is part of the cultural fabric of our company.

Laser Scanning

A Laser Scanner is basically an automated total station capable of capturing millions of measurements in a short period of time. The scanner uses a laser to measure distance to a surface, and then based on the azimuth and rotation of the scanner body it triangulates the position of the point in three dimensional space. These distance measurements are made using either time of flight lasers, or phase based lasers. Some scanners also incorporate a camera so that pictures can be used to color the point cloud or to provide additional deliverables.

GSA NATIONAL BIM SERVICES IDIQ CONTRACT

In 2009, the U.S. General Services Administration (GSA) awarded Beck's Technology Group (Beck Technology, Ltd.) with an indefinite delivery indefinite quantity (IDIQ) contract. Beck was awarded the contract to provide building information modeling (BIM), laser scanning, and related technology services across 11 regions of the United States.

As part of the scope, Beck Technology and a team of ten subconsultants can perform a wide variety of BIM Services from traditional BIM modeling, training and implementation strategies, and BIM Management Services.

GSA NATIONAL BIM SERVICES IDIQ CONTRACT INFORMATION:

Beck Technology was awarded Zones A, B and C for Nationwide BIM Services and Zone B for Laser Scanning Services.

Our contract numbers are:

Contract No. GS-00P-09-CY-D-0283 – BIM Services

Contract No. GS-00P-09-CY-D-0300 – Laser Scanning

CONTACT INFORMATION

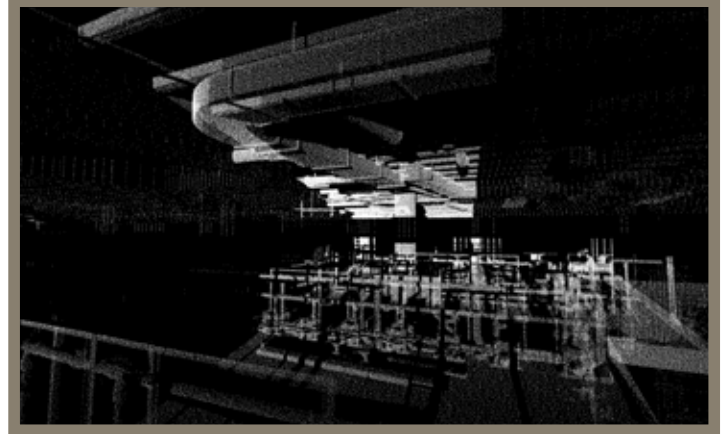
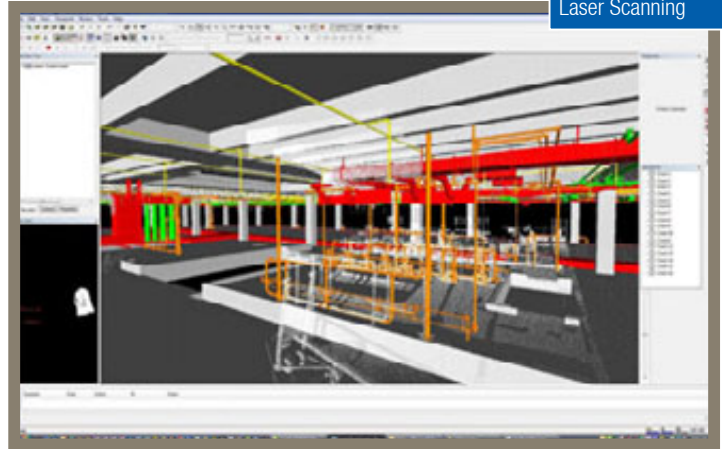
Brent Pilgrim, LEED A.P.

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Laser Scanning



Partners

Bohannon & Huston

LANGAN
ENGINEERING & ENVIRONMENTAL SERVICES

CADFORCE



Nationwide Laser Scanning Services

5 year, IDIQ Contract valued at up to \$30 Million

As part of GSA's Nationwide 3D-4D-BIM Program, Architectural Resource Consultants (ARC) has been awarded a 5 year, Nationwide Laser Scanning Services, 100% small business set-aside, IDIQ contract, valued at up to \$30 million dollars.

Under this contract, ARC and its partners will help advance the use of 3D Laser Scanning and BIM technologies within the GSA organization. Services will be rendered under this contract on an as-required basis for all Government Agencies administering or funding, in whole or part, design and/or construction programs. Services may be required at any time during a project's/property's development and delivery, including: planning, design, construction, operations, facility management and/or disposal. Services shall be performed for many project types, including, but not limited to: new construction, renovations, and modernizations.

This contract may be used to order services required in the design and implementation of 3D laser scanning and BIM. These services include, but are not limited to the following:

Exterior & Interior 3D-Laser Scanning

Transformation of 3D laser scanning point cloud data to BIM

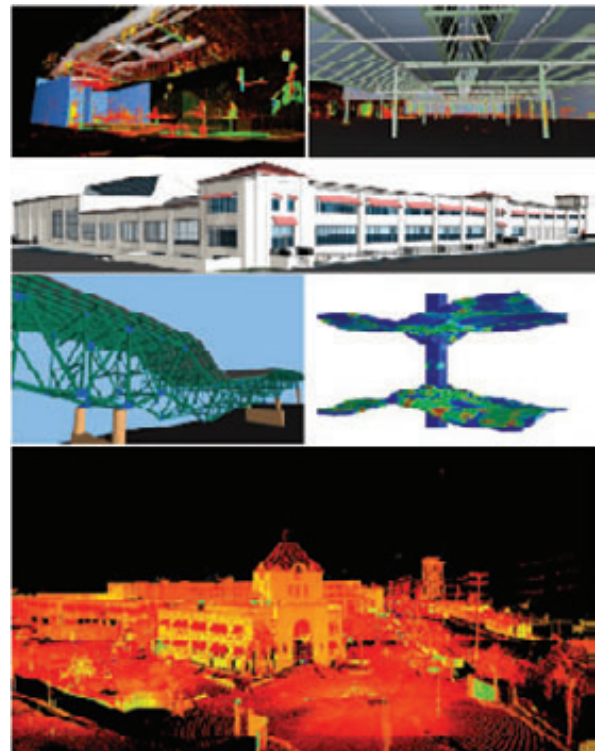
Architectural, Structural, MEP and Civil BIM Modeling

Laser Scanning-based analysis & applications including:

- Visualization
- Clash Detection
- Constructability Analysis

3D Laser Scanning integration, implementation, training and strategic planning including:

- Support to design and construction firms
- Review of BIM models & analysis completed by other service providers
- Development of Best Practices & Training Manuals
- Software Training
- Benchmarking and measurement standards





What is 3D Laser Scanning?

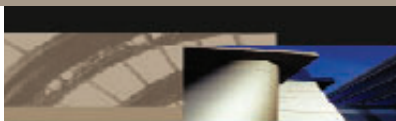
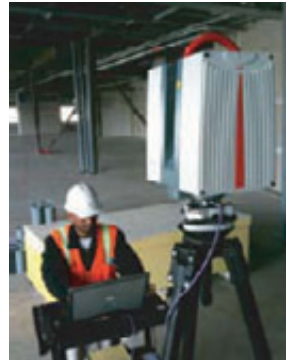
Simply stated, a Three Dimensional (3D) Laser Scan (also referred to as a point cloud) is like an image from a digital camera, except that each and every pixel can be established in a real world 3D coordinate system. As compared to traditional surveying methods that field identify individual specific points, High-Definition Survey (HDS) generates millions of data points. Accordingly, the surveyor, designer, and/or client has subsequent access to a much larger database of information should survey requirements later change or expand.

3D Laser Scanning is utilized to accurately capture and store "as-built" or "existing" information on areas ranging from mechanical plants to ancient monuments. The scanner captures the information from a scanned area in a digital format. Once in that format, the user can view, measure, assess, and totally interact with that area as though they were located within the actual environment. Clients move freely around in this environment, adopt any chosen viewpoint, and zoom in or out to inspect or measure selected detail. The scanner's "point cloud" is like a visualized 3D model reflecting real world features in an accurate, re-locatable coordinate system.

Laser Scanning services provide a higher level of survey data accuracy with greater field efficiency to meet the diverse needs of architects, engineers, government agencies, contractors, attorneys, etc. Expedited access to field data from the scanner creates the ability to determine specific dimensional requests more quickly and to customize deliverables to meet the clients' needs without numerous site re-visits.

Benefits of using 3D Laser Scanning

- Collects a greater amount of data, with more speed, and with a higher level of accuracy
- Provides a level of detail not available with traditional surveys
- Scan both exteriors and interiors
- Reduces time spent in hazardous locations or restricted areas
- Provides a means to validate the accuracy of as-built deliverables via scan data overlays
- More area coverage with a single set-up of the scanner versus traditional survey methods
- Minimizes disturbance of an accident scene, archeological site, historical buildings, etc.
- Provides a safe, remote instrument and operator location when surveying urban, multi-lane roads and intersections
- 3D data format may be used in modeling and presentations
- Digital photos can be layered to provide more realism
- Allows for observation and assessments of material quantities and movement/settlement
- Creates a permanent record of critical building systems (SMPE) during construction or renovation before finish materials cover them up
- Data can be extracted as needed reducing up-front costs.
- Non-technical users can view and extract dimensional properties from the data when rendered as "TruView" imagery



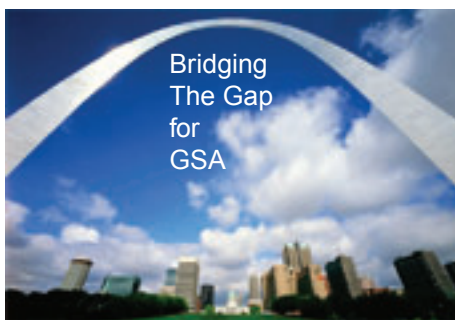


Architectural Resource Consultants (ARC)

Architectural Resource Consultants (ARC) was established in 1997 to provide professional support services to the Architectural, Engineering, Construction and Facilities Management (AEC+FM) industries. Since then, ARC has evolved into an award winning national service provider, specializing in providing 3D Laser Scanning and BIM services throughout all phases of the facility life-cycle. We combine expertise, process, and cutting edge technology to deliver the highest quality building as-builts, analysis, spatial data management and consulting services.

Key Differentiators:

- Expertise** - Surveyors may be experts in measuring and laser scanning, but not necessarily in buildings. Architects and Engineers may be experts in buildings and BIM, but typically not in measuring. As building surveyors, ARC bridges the gap for GSA and unites both worlds. We are not a traditional A&E firm and we are not a traditional land surveyor. We are building as-built experts.
- Process** - ARC's process for Spatial Data Management across the facility life-cycle ensures that all data is retained, organized and easily accessed through the use of our secure in-house or hosted DES (Digital Exchange Server) technology.
- Technology** - ARC is on the forefront of building survey with its adoption of interior mobile laser scanning. Drastically reducing scanning time, registration time and disruption to building occupants it can lower cost and improve speed of delivery.



SURVEYORS
LASER
SCANNING

The Gap

A/E
PROFESSIONALS
BIM



Mobile Scanner

HEADQUARTERS LOCATION:

Irvine, California

REPRESENTATIVES:

Charlotte, North Carolina
Los Angeles, California
Omaha, Nebraska
Seattle, Washington

YEAR ESTABLISHED:

1997

SERVICE OFFERINGS:

Architecture

As-built Documentation
Laser Scanning
Post Processing
Geometric Modeling
BIM Modeling
BIM Analysis
2D & 3D CAD

Spatial Data Management

Visualization:
Renderings
Animations

LARGEST PROJECT COMPLETED:

Las Vegas Convention Center - Provided as-builts of 3.8 Million sq. ft. to establish a unified structural grid system, 2D floor plans and above ceiling plenum scanning and modeling for an \$890 million renovation.

COMPANY CONTACT:

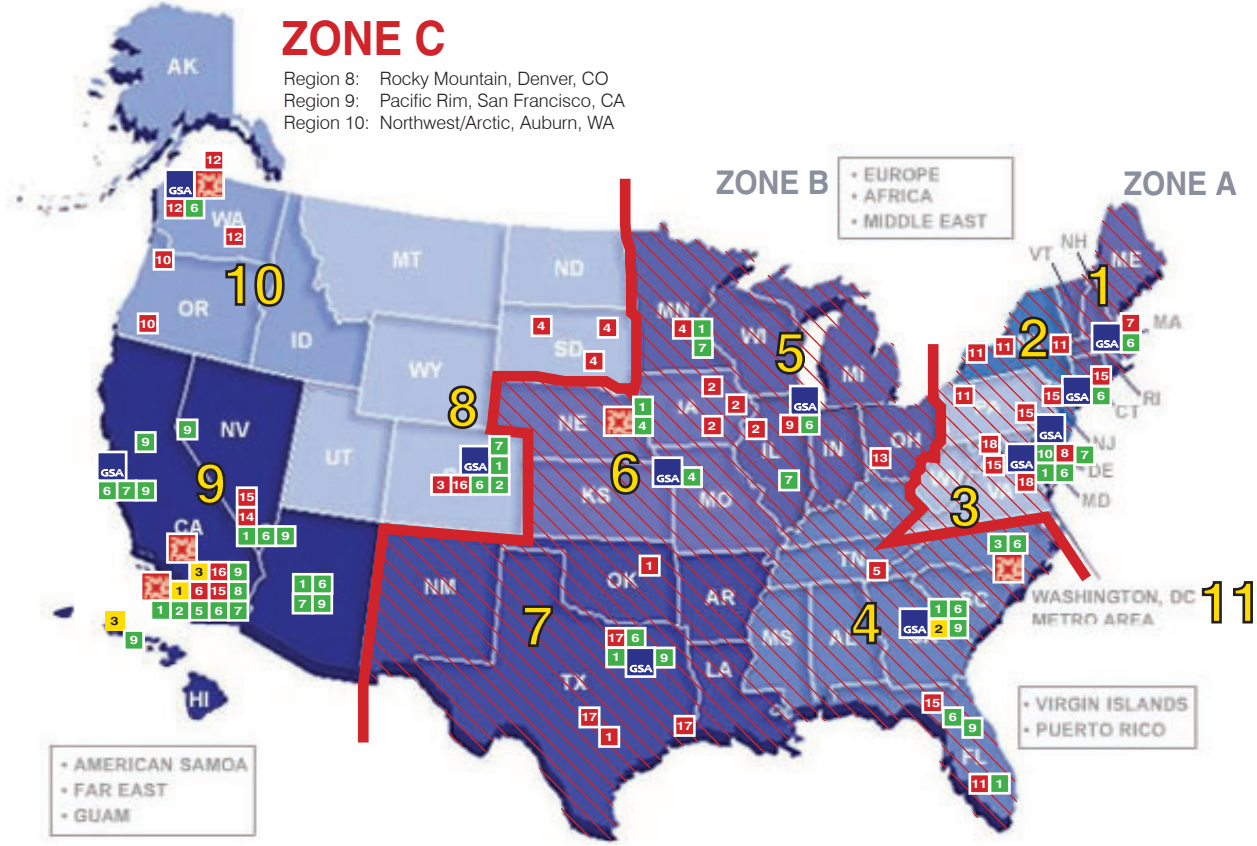
John M. Russo, AIA
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john.russo@arc-corporate.com



Architectural Resource Consultants (ARC)
888.362.4272 x101
www.arc-corporate.com



ARCHITECTURAL
RESOURCE CONSULTANTS,
Your Trusted Outsource Partner



ZONE C

Region 8: Rocky Mountain, Denver, CO
 Region 9: Pacific Rim, San Francisco, CA
 Region 10: Northwest/Arctic, Auburn, WA

ARC's Team

ARC's team is comprised of 31 partner firms, each highly qualified in their domain of expertise.

GSA's Nationwide Laser Scanning Services contract enables ARC and its team to provide Laser Scanning and BIM services anywhere in Zone C (Regions 8, 9 & 10).

Contact us today, toll free, at 888.362.4272 x101 to learn how we can be of assistance on your next project.

ARC's TEAM of PROFESSIONAL SUBCONSULTANTS										
SCANNING & SURVEY	1	Aerial Data Service	2	Ament, Inc.	3	Cal Vada Surveying, Inc.	4	Clark Engineering	5	Coast 2 Coast
	6	D. Woolley & Associates	7	DGT, Inc.	8	Direct Dimensions	9	Dynasty Group, Inc.	10	Epic Scan
	11	Erdman Anthony	12	ESM Consulting Eng.	13	G.J. Berding Surveying	14	Heritage Surveying	15	Langan Engineering
	16	Mollenhauer Group	17	SAM, Inc.	18	William H Gordon Assoc				
BIM	1	Digital Vision	2	RCMS Group	3	US CAD				
SPECIALTY	1	Leo A. Daly	2	John A. Martin Assoc.	3	Applied Science Int.	4	Custom Engineering	5	TKSC
	6	Rolf Jensen Associates	7	Lerch Bates, Inc.	8	C.W. Driver	9	Cumming Clark	10	DC Strategies
		Fire Safety		Elevator		Construction		Cost Estimating		Process



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Zone Assignments – BIM Services

BIM Contractors	Beck Technology, LTD GS-00P-09-CY-D-0283	Applied Software GS-00P-09-CY-D-0284	DPR Construction, Inc. GS-00P-09-CY-D-0285	Ghafari Associates GS-00P-09-CY-D-0286	Kling Stubbins GS-00P-09-CY-D-0288	HNTB Corporation GS-00P-09-CY-D-0289	ONUJMA Inc. GS-00P-09-CY-D-0290	View by View, Inc. GS-00P-09-CY-D-0291	Kristine Fallon Assoc. GS-00P-09-CY-D-0292
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List of Zones									
Central Office Washington, DC	X	X	X	X	X	X	X	X	X
Zone A									
Region 1: New England Region 2: Northeast & Caribbean, New York, NY Region 3: Mid-Atlanta, Philadelphia, PA Region 11: National Capital, Washington, DC	X	X	X	X	X	X	X	X	
Zone B									
Region 4: Southeast-Sunbelt, Atlanta, GA Region 5: Great Lakes, Chicago, IL Region 6: The Heartland, Kansas City, MO Region 7: Greater Southwest, Fort Worth, TX	X	X		X		X	X	X	X
Zone C									
Region 8: Rocky Mountain, Denver Region 9: Pacific Rim, San Francisco, CA Region 10: Northwest/Arctic, Auburn, WA	X		X	X	X	X	X	X	



Zone Assignments – 3D Laser Scanning Services

3D Laser Scanning Contractors	Stantec Consulting GS-00P-09-CY-D-0296	Quantapoint, Inc GS-00P-09-CY-D-0297	Pharos Consulting, LLC GS-00P-09-CY-D-0298	Coign Asset Metrics GS-00P-09-CY-D-0299	Beck Technology, LTD GS-00P-09-CY-D-0300	Architectural Resource Consultants GS-00P-09-CY-D-0301
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List of Zones						
Central Office Washington, DC	X	X	X	X	X	X
Zone A						
Region 1: New England Region 2: Northeast & Caribbean, New York, NY Region 3: Mid-Atlanta, Philadelphia, PA Region 11: National Capital, Washington, DC	X	X	X	X	X	
Zone B						
Region 4: Southeast-Sunbelt, Atlanta, GA Region 5: Great Lakes, Chicago, IL Region 6: The Heartland, Kansas City, MO Region 7: Greater Southwest, Fort Worth, TX	X	X		X		
Zone C						
Region 8: Rocky Mountain, Denver Region 9: Pacific Rim, San Francisco, CA Region 10: Northwest/Arctic, Auburn, WA	X	X		X		X



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3D-4D Building Information Modeling

In 2003 the General Services Administration (GSA), through its Public Buildings Service (PBS) Office of Chief Architect (OCA), established the National 3D-4D-BIM Program. OCA has led over 30 projects in its capital program, and is assessing and supporting three dimensional (3D), four-dimensional (4D), and Building Information Modeling (BIM) applications in over 35 ongoing projects across the nation. The power of visualization, coordination, simulation, and optimization from 3D, 4D, and BIM computer technologies allow GSA to more effectively meet customer, design, construction, and program requirements. GSA is committed to a strategic and incremental adoption of 3D, 4D, and BIM technologies.



There is a progression from 2D to 3D, 4D, and BIM. While 3D models make valuable contributions to communications, not all 3D models qualify as BIM models since a 3D geometric representation is only part of the BIM concept.



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NONGOVERNMENT LINKS

- [GSA Earns CoreNet Global Innovator Award](#)
- [Digital Modeling, Early Adopters Find the Best Models are Digital Virtuosos, Sawyer, Tom, Engineerin](#)
- [3D Laser Scanning in GSA's 3D-4D BIM Program, Jenkins, B., Spar Point Research LLC, SparView Vol. 4](#)
- [BIM: The GSA Story in IBIM](#)
- [Building Better: GSA's National 3D-4D-BIM Program](#)



U.S. General Services Administration

The National 3D-4D-BIM Program
 Office of Design and Construction
 Public Buildings Service
 U.S. General Services Administration
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