NEW STATE LABORATORY FOR PUBLIC HEALTH & MEDICAL EXAMINER’S OFFICE, RALEIGH, NORTH CAROLINA

BIM Services/Sheet Metal Detailing: Cadvantage Drafting Service, Inc., St. Petersburg, Florida
North Carolina’s New State Laboratory is a combined facility that will house the Public Health Laboratory and Chief Medical Examiner’s Office in Raleigh, North Carolina.

This 220,000-square-foot facility will consist of a single building with separate wings for each department. Stromberg Metal Works, Inc. will install approximately 295,000 pounds of galvanized and 186,000 pounds of welded stainless steel duct during the course of this project.
Stromberg Metal Works, Inc. contracted the coordination and fabrication of HVAC drawings to Cadvantage Drafting Service, Inc. Cadvantage utilizes custom 3D AutoCAD based software.

Development of HVAC drawings in 3D is crucial to participation in BIM, which was a requirement of this project. BIM (Building Information Modeling) has been gaining more momentum in the building and construction industry. Due to the large amount of space that most HVAC systems require, 3D visualization results in fewer conflicts in the field. One of the benefits to Stromberg is the opportunity to identify conflicts prior to fabrication and installation.

For instance, due to the coordination being completed prior to the concrete pours, accurate placement of the embedded structural support system for the ductwork and piping was accomplished.
3D coordination among the subcontractors on this project has taken place at a weekly virtual meeting. Prior to the meeting, completed HVAC drawings for that area have been sent to John E. Green’s FTP site for integration into the model.

Utilizing VoIP communication and NavisWorks, a software application which provides 3D CAD file aggregation, clash-detection and real-time navigation of projects, Roger Schwartz, Detailing Manager for Cadvantage, is able to view ductwork in a specific area of the building. Input from HVAC, Piping, Plumbing, Electrical, and Fire Protection contractors is viewed and a virtual walk-thru of each area allows necessary changes to be made.

Typical of today’s construction, congested areas above the ceiling have provided a challenge on this project. In particular, there existed a long run of waste piping that had to be held high at one end and sloped to just above the ceiling at the other end. This required the branch ducts to be routed either above or below the waste pipe depending on the location of the adjacent laboratory rooms.

“Coordination of this area would have been difficult without the use of this 3D tool,” states Dan Sinclair, President of Cadvantage Drafting Service, Inc. “Access to BIM technology is rapidly becoming crucial for the Sheet Metal Contractor. We would like to thank Stromberg for the opportunity to provide BIM/Coordination services for the New State Lab.”

As this project progresses, virtual coordination will give Stromberg the ability to make changes prior to installation which translates into lower labor costs, field efficiency and adherence to construction schedules.
FOR FASTER, LOWER-COST PROJECTS ---- USE BIM!
SMACNA ANNUAL CONVENTION SESSIONS REVEAL HOW

While attending SMACNA’s annual convention this October in Phoenix, SMACNA members will have the opportunity to attend a variety of educational sessions on the benefits of using Building Information Modeling (BIM).

From design to fabrication ---- utilizing BIM to maximize project efficiency.

In this convention session, contractors will learn how to use BIM to streamline their work processes and reduce risk. Eliminating redundant work and maximizing efficiency throughout the job are also benefits of employing BIM.

Bob Mauk, an industry recognized leader in integrating Virtual Design and Construction (VDC) and lean project delivery, will illustrate how project teams have realized the opportunities of using 3D-enabled delivery to streamline their work from design to fabrication.

He will discuss case studies from health care, industrial and governmental projects.

Increasing attention has been given to BIM in recent years and owners are starting not only to expect, but demand that BIM be used on their projects.

Samir Emdanat will show through practical project examples how project teams, when their interests have been strategically aligned, have maximized overall project efficiency.

Mr. Mauk is vice president of Virtual Design and Construction at Ghafari Associates and specializes in integrating VDC and lean project delivery to maximize the efficiency of the project’s design and construction supply chains.

He directs the implementation of lean and VDC initiatives for owners in the automotive, governmental, hospitality and health-care industries as well as for contractors and architects/engineers around the country. Mr. Emdanat, is director, Virtual Design and Construction at Ghafari Associates.


For more information, contact SMACNA’s Meeting’s and Convention Department at (703) 803-2980.

Florida SMACNA, Inc. is a trade association made up of qualified sheet metal and air conditioning contracting firms dedicated to improving the quality of the construction business in Florida. The Association is part of a nationwide network of chapters that represent the leading voice in the industry, the Sheet Metal and Air Conditioning Contractors’ National Association (SMACNA) located in Chantilly, Virginia.
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5010 126th Avenue N.
Clearwater, FL 33760
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Manuel Santana, Jr.

Anderson Technical Systems, Inc.
405 Timaquin Trail
Edgewater, FL 32132
386-423-2500
Tim Anderson

Bohnert Sheet Metal
2225 NW 76th Street
Miami, FL 33147
305-696-6851
William H. Marvel, Jr. (Skip)

BSA Sheet Metal
2530 Ali Baba Avenue
Opa Locka, FL 33054
305-681-3771
John Rudisill

CADVANTAGE Drafting Service, Inc.
2220 1st Avenue S.
St. Petersburg, FL 33712
727-321-2072
Dan Sinclair

Cailis Mechanical Corp.
12349 SW 53rd St., Suite 204
Cooper City, FL 33330
954-252-0263
Emanuel Cailis

Dodec Inc.
3140 W. 84th Street, Bay #2
Hialeah, FL 33018
305-826-4022
Trevor Pantry

Ferber Sheet Metal Works, Inc.
4121 Evergreen Avenue
Jacksonville, FL 32206
904-356-3042
George Ferber

Lapin Sheet Metal Company
3825 Gardenia Avenue
Orlando, FL 32839
407-423-9897
Ronald J. Lapin

Lee’s Sheet Metal Works, Inc.
P.O. Box 756
East Palatka, FL 32131
386-328-5563
James Lee

McDonald Air and Sheet Metal, Inc.
2730 Eunice Avenue
Orlando, FL 32808
407-295-0220
Ralph Carver

Magnum Sheet Metal, Inc.
7470 NW 68th Street
Miami, FL 33166
305-885-5656
William H. Murphy, Sr.

MetalFab, Inc.
P. O. Box 1184
San Antonio, FL 33576-1184
352-588-9901
Wally Ruda

Moffitt Mechanical, LLC
1351 13th Avenue South, Suite 130
Jacksonville Beach, FL 32250
904-241-9944
John Moffitt

National Sheet Metal Co.
8318 Atlantic Blvd.
Jacksonville, FL 32211
904-724-7476
Lance Herlong

Omega Test and Balance
126 Wisteria Avenue
Fort Pierce, FL 34982
772-216-7632
Hugh Grimes

R. Neth & Son, Inc.
360 E. Landstreet Road
Orlando, FL 32824
407-855-9096
Brad Supples

Ray’s Metal Works, Inc.
P.O. Box 700
Alachua, FL 32616
386-462-1415
Ray Burnsrd, Sr.

Sheet Metal Experts, Inc.
8986 N.W. 105th Way
Medley, FL 33178
305-805-2019
William F. Medlin

South Florida Sheet Metal
5264 NW 163rd St.
Miami, FL 33014
305-430-0075
Harold Woods

United Sheet Metal Company/Applegate
1141 NW 31st Avenue
Pompano Beach, FL 33069
954-773-2910
Rich Applegate

Vickers Metal Works, Inc.
6701 Edgewater Commerce Pkwy.
Orlando, FL 32810
407-297-7546
Tim Vickers

OTHER CONTRIBUTORS TO THE FLORIDA SHEET METAL INDUSTRY

Advanced Metal Works
Apollo Construction & Engineering
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The building community has lacked a comprehensive and practical resource on achieving good indoor air quality (IAQ) for the building professionals who design, construct and commission buildings.

To meet this long-standing need, ASHRAE teamed up with several key organizations, including SMACNA, to develop the newly published “Indoor Air Quality Guide: Best Practices for Design, Construction and Commissioning.”

By going to www.ashrae.org/doclib/20100624_iaqappsarticle.pdf you can access a short summary of the guide including its format, content and a link to the free pdf file for download.

Designed for architects, design engineers, contractors, commissioning agents, and all other professionals concerned with IAQ, the guide is a comprehensive publication that provides both summary and detailed guidance regarding:

• Best practices for all aspects of IAQ building design, commissioning and construction, including designing for maintainability.
• Tools and material for demonstrating the value of IAQ to clients
• 40 strategies for achieving eight critical IAQ objectives

To download the IAQ Guide visit www.ashrae.org
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SMACNA Inc.

6767 N. Wickham Road, Suite 400
Melbourne, Florida 32940

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