PROPOSAL
State College Area School District
High School
JUNE 4, 2014
WE ARE YOUR PARTNER AND ADVOCATE IN THE BUILDING PROCESS.

We identify the unique elements of your project and enhance the value of your team by creating an efficient, collaborative atmosphere. With our depth of experience and expertise in design, estimating and field operations, we know what it takes to ensure that your construction project is a success.

WHAT WE STAND FOR

<table>
<thead>
<tr>
<th>People</th>
<th>Teamwork</th>
<th>Integrity</th>
<th>Service</th>
<th>Perseverance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Our employees matter to us, and they matter to one another. Ensuring their safety and well-being is more important than anything else we do.</td>
<td>We believe that working together for the betterment of the organization is the best pathway to individual success. We achieve our organizational goals through hard work, a commitment to excellence and maintaining an all-for-one attitude.</td>
<td>We are honest, we are fair, and if we make a mistake we do whatever it takes to make it right. Being ethical is the only way we do business.</td>
<td>We believe that our success is bound to the health of the communities in which we work. We are committed to volunteering, diversity, environmental sustainability, and good corporate citizenship.</td>
<td>We are committed to the long term sustainability of our company. No matter the odds, we stick together and we never give up.</td>
</tr>
</tbody>
</table>

WHY WE EXIST

To ENABLE our workforce to reach its full potential, DEVELOP lasting relationships with our customers, and BUILD stronger communities.
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Approach to Value Engineering

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Strategy for Managing Change Orders

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Fee

Pictured (clockwise from top left):
Penn State University
Henderson Project
University Park, Pennsylvania

Bethel Park School District
High School
Bethel Park, Pennsylvania

Fox Chapel Area School District
High School
Pittsburgh, Pennsylvania
June 4, 2014

Mr. Ed Poprik, PRSBO
Director of Physical Plant
State College Area School District
131 West Nittany Avenue
State College, PA 16801

RE: SCASD High School Construction Management RFP Response

Mr. Poprik,

I would like to offer Massaro’s congratulations for the District’s successful referendum last month for the financing of the High School Project. The process undertaken by SCASD was thoughtful, inclusive and above all transparent. Our staff has observed a number of the district’s presentations and conversations. In doing so, we have been increasingly impressed with the strategic focus, community engagement and clarity of mission with every community interaction. Again, congratulations.

Thank you for the opportunity to submit this proposal for Construction Management Services for your High School Project. Massaro has a long history of providing service excellence for K-12 projects. Beginning as a General Contractor in 1967, we have offered Construction Management Services for over a decade. During that time, our organization has focused on Central Pennsylvania. As a result, we have established a presence in Bellefonte, and continue to develop our workforce within the area and part of the Central Pennsylvania community. The Massaro personnel proposed for this project have worked together successfully over the past three years in State College providing the precise services as outlined in your RFP. We have worked diligently to respond to challenges in the construction and multi-prime contracting industry by establishing repeatable processes with demonstrated results. This approach consistently allows for providing relevant project data to our customers, stakeholders and collaborators enabling informed action to achieve project success.

In addition to project budget, scope and schedule, we measure our success through achieving the adopted goals and strategic mission of our customers. In the K-12 environment, that translates to focusing on the students and the community. We partner with our customers to provide student educational opportunities within the project, identify select goals aligned with SCASD, and establish clear communication within the community and supporting organizations.

It is this culture of established systems and accountability, partnered with SCASD’s strategic approach that will enable this endeavor to be a resounding success. We look forward to the opportunity to discuss with you in detail how we can deliver project excellence together. In the interim, if you have any questions, or require any additional information, please do not hesitate to contact myself: clasky@massarocms.com, 412-589-1318; or Dan Kiefer: dkiefer@massarocms.com, 412-670-0981.

Sincerely,

Christopher J. Lasky, AIA
MASSARO CM Services LLC
section 2
Project Team and Structure

preconstruction

GEORGE KNOU
Senior Lead MEP Estimator

MARELA VILORIA
Lead Estimator

construction

RYAN COLE
Project Engineer and BIM Manager

TIM JONES
Project Manager

additional resources

JOSEPH A. MASSARO III
President

CHRISTOPHER J. LASKY
VP, CM Services

NANCY GORGAS
Senior Project Engineer

CRYSTAL SCHAFFER
Safety Director

Denotes LEED® AP

Massaro
CM SERVICES, LLC
Kevin Nestor  
Project Executive

Kevin was chosen to be the Massaro team leader for the State High Project based on the successful results his Central PA team has produced in Centre County on similar educational projects. Kevin is our Senior Construction Manager with 34 years of experience managing complex new construction and renovation projects for education, healthcare, laboratories and support office facilities. We are also recommending Kevin for his vast experience working on difficult sites comprising problem soils, rock excavation, and storm water management and improvements. His leadership role at Massaro has included direct responsibilities for the overall safety of students, faculty and staff during the construction of multi-phased projects and around occupied facilities. He has shown proven devotion to Massaro’s Core Value of “Safety Above All” and has worked with our Centre County Team to devote each day to placing safety above placing work.

The Massaro Project Team proposed in our response has been under Kevin’s direct supervision for the past three years. He has established a strong track record of successfully leading this team to meet the client’s goals for preconstruction, safety, daily site logistics, scheduling and our collaboration services to the client and all prime contractors. He will also be directly responsible for the Massaro’s continuing and expanding services to the State College School District for BIM, QA/QC, schedule management and the direct meetings and reporting to all of the district’s stakeholders. Kevin has been instrumental in forming and training our proposed Team, a Team that is currently performing all of State High’s CM performance criteria on a daily basis.

Kevin is known to get the highest level of performance out of our Centre County staff with a focused energy on meeting the client’s needs. Kevin will lead the Massaro project team through every phase of the State High project (preconstruction, construction, occupancy, punch-out and close-out).

Also, as Massaro’s Senior Manager in Centre County, Kevin is proud to lead our employees in our commitment to “Serve the Communities in Which We Work.” We have fostered relationships with volunteer opportunities so that our Team can look beyond the work site and give back to the community. Over the past few years it has been Massaro’s unique pleasure to have been able to serve the Centre County Women’s Resource Center and Central PA Easter Seals Society with our time and talent.

Massaro shares the School District’s passion for community involvement, engagement and learning. Kevin will lead our Team to ensure that the State High construction project reaches out to the community to inform and instruct through live web cams, project web sites and frequent jobsite forums for students and faculty.

### Relevant Project Experience

<table>
<thead>
<tr>
<th>Project</th>
<th>Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>The Pennsylvania State University</strong></td>
<td>Henderson Projects Phases I &amp; II Biobehavioral Health and Human Development</td>
<td>University Park, Pennsylvania $74,928,000</td>
</tr>
<tr>
<td><strong>California University of PA</strong></td>
<td>Renovations &amp; new construction of student residences &amp; classrooms</td>
<td>California, Pennsylvania $25,000,000</td>
</tr>
<tr>
<td><strong>Saint Vincent College</strong></td>
<td>Fred Rogers Conference &amp; Educational Center</td>
<td>Latrobe, Pennsylvania $12,000,000 LEED Gold - USGBC</td>
</tr>
<tr>
<td><strong>The Art Institute of Pittsburgh</strong></td>
<td>Renovations &amp; new construction of Shannon Hall Student Apartments &amp; Classrooms</td>
<td>National Historic Registry Recipient Pittsburgh, Pennsylvania $21,102,497</td>
</tr>
</tbody>
</table>

### Education

- University of Pittsburgh, 1982  
  Bachelor of Science, Civil Engineering Technology

### Certifications

- OSHA 30  
- CPR/First Aid  
- AED  
- NPDES Controls  
- Certified Confined Space Rescue Team  
- Confined Space-Permit Required-Safety Training  
- Fall Protection Safety  
- Geotechnical Soil Analysis  
- Fire Sealants Application  
- P-6 Schedule  
- Certified Confined Space Rescue Team  
- Fall Protection Safety  
- Geotechnical Soil Analysis  
- Fire Sealants Application  
- P-6 Schedule

### Certifications (Cont.)

- Certified Confined Space Rescue Team  
- Fall Protection Safety  
- Geotechnical Soil Analysis  
- Fire Sealants Application  
- P-6 Schedule

### Years in Industry

- Since 1980

### Years with Massaro

- Since 2005
Tim Jones  P.E., LEED® AP BD+C  
Project Manager

Tim joined Massaro in 2010 and is currently acting as the on-site Project Manager for the Penn State Health and Human Development Building. Prior to employment with Massaro, Tim worked as a structural design engineer and maintains his Professional Engineering license. With 10 years of industry experience, Tim is a valuable resource as an on-site problem solver and leader. As the Project Manager for the State High project, Tim will be on site daily and responsible for the following:

1. Plan, develop and enforce the “SAFETY ABOVE ALL” program.
2. Assist preconstruction team with constructability reviews, Prime scopes of work, front-end specifications.
4. Budget Control including forecasting change order exposure, change order review and reporting.
5. Conduct and document Owner/Architect/Contractor meetings.
6. Direct the review and processing project submittals including upfront submittal schedule with an oversight on hitting related schedule milestones.
7. Oversight and involvement with all BIM services.
8. Assist in the procurement and management of Owner testing and commissioning services.
9. Project Closeout and commissioning in a timely, organized fashion.

Tim has been part of Massaro’s Centre County presence beginning in 2010 as a project engineer. In late 2012, Tim was promoted to the role of Project Manager and has been working directly with the proposed State High team. As the Project Manager for the Penn State Health and Human development building, Tim is leading the day-to-day operations of a staff of 8 to manage the construction of 17 Prime Contractors. Strong working relationships with the Owner, Design team, consultants and Prime Contractors has enabled Tim to lead his projects successfully.

As a resident of State College Borough, Tim has a vested interest in helping to ensure that the State High Project is a success for both the school district and community.

RELEVANT PROJECT EXPERIENCE

**The Pennsylvania State University**
- Henderson Projects Phases I & II
- Biobehavioral Health and Human Development
- University Park, Pennsylvania
- $74,928,000

**Fairmont State University**
- Engineering & Technology Addition
- Fairmont, West Virginia
- $15,000,000

**University of Pittsburgh**
- Benedum Hall Renovation
- Pittsburgh, Pennsylvania
- $44,000,000

**The Pennsylvania State University**
- Misciagna Family Arts Center Addition
- Altoona, Pennsylvania
- $3,000,000

**Uniontown Hospital**
- Addition
- Uniontown, Pennsylvania
- $39,000,000

**American Eagle Outfitters**
- Corporate Headquarters
- Pittsburgh, Pennsylvania
- $29,000,000

EDUCATION

Bachelor of Architectural Engineering  
The Pennsylvania State University, 2004

EDUCATION (CONT.)

Master of Architectural Engineering  
The Pennsylvania State University, 2004

CERTIFICATIONS

Professional Engineer, Commonwealth of PA  
LEED® AP  
OSHA 10-Hour  
OSHA 30-Hour  
First Aid/CPR/AED  
Aerial Lift Operator  
Permit Required Confined Space Rescue

YEARS IN INDUSTRY

Since 2004

YEARS WITH MASSARO

Since 2010
Jim Kephart
Senior Site Manager

Jim began his career in construction in 1993. His history includes working as a union carpenter, foreman, general foreman, project superintendent and site manager in residential, industrial, commercial, healthcare, higher ed and restaurant environments.

In 1998, Jim joined the United States Army Reserve; his awards, decorations and medals are proudly listed below. Jim joined Massaro in March of 2007 and has overseen our successful student housing and educational facilities at Indiana University of Pennsylvania. Jim is currently the Senior Site Manager at The Pennsylvania State University overseeing the site and safety of the Henderson Health and Human Development projects.

Jim was chosen to be Massaro’s Site Manager for State College Area School District because of his superior knowledge and devotion to safety, his high level of proven leadership on collaborative, large scale, multi-phased and multi-prime projects, and his desire to teach and instruct on a daily basis. Jim has worked with the proposed Massaro team continuously since 2010.

As senior site manager, Jim's responsibilities include:
- Managing the overall project safety, focused on the well being of students
- Maintaining daily activity logs for the project
- Supervising Massaro’s on-site personnel, Prime, and Subcontractor workforce
- Coordinating Prime Contractors’ activities and reviewing materials and work-in-place to assure compliance with the contract documents
- Overseeing the Prime Contractor’s work to maintain project schedule
- Procuring materials and equipment for Massaro’s work
- Managing cost controls with the project manager
- Serving as Account Administrator for AutoDesk BIM 360 Field for all QA/QC reporting

**RELEVANT PROJECT EXPERIENCE**

**The Pennsylvania State University**

Henderson Projects Phases I & II
Biobehavioral Health and Human Development
University Park, Pennsylvania
$74,928,000

**Indiana University of Pennsylvania**

Student Housing - Four Phases
Indiana, Pennsylvania
Total $172,897,197

**MILITARY SERVICE**

**United States Army Reserve 1998-2006**

MOS 21N30H (Heavy Construction Equipment Supervisor)
B Co.458th Combat Engineers
Rank SSG E-6

**MILITARY SERVICE (CONT.)**

**Awards:**
- NCO of The Year - 464th Chemical Brigade 2001
- Enlisted Service Person of the Year - 2001 Western PA

**Decorations:**
- Combat Action Badge
- Expert Rifle, Grenade, Pistol
- Drivers Badge (Wheeled) (Operator S)
- NCO Ribbon - Numeral 2 Device
- Army Service Ribbon
- Overseas Training Ribbon
- Overseas Ribbon (Active Duty)

**MILITARY SERVICE (CONT.)**

**Medals:**
- Purple Heart, Army Commendation Medal
- Oak Leaf Cluster, Army Achievement Medal
- 4 Oak Leaf Clusters, National Defense, Iraq Campaign Medal, Global War on Terror Expeditionary, Global War on Terror Service, Army Reserve Components Achievement Medal
- 1 Oak Leaf Cluster, Armed Forces Reserve Achievement Medal

**CERTIFICATIONS**

First Aid / CPR
OSHA 10 and 30
OSHA Scaffold Erector 32 hr
Certified Welder
Confined Space Rescue
Aerial Work Platform
Safety NCO for Brigade Instructor
Hazmat Equipment Operator (Heavy)

**YEARS IN INDUSTRY**

Since 1993

**YEARS WITH MASSARO**

Since 2007
Dan began in the construction industry in the 1980’s working his way from laborer up to site manager. In the 1990’s and through 2003 his roles included project engineer, project manager, lead estimator and business development account manager.

Dan joined Massaro in 2004 as preconstruction support. Currently, Dan oversees a staff of preconstruction and operations professionals dedicated to ensure that the owner understands their project’s cost, schedule and the specific impacts their project will have on their campus, staff, faculty, student body and community at large.

**RELEVANT PROJECT EXPERIENCE**

**The Pennsylvania State University**
Henderson Projects Phases I & II  
Biobehavioral Health and Human Development  
University Park, Pennsylvania  
$74,928,000

**Bethel Park School District**
Replacement High School  
Bethel Park, Pennsylvania  
$73,000,000

**Fox Chapel Area School District**
Multiple school renovations & additions  
Pittsburgh, Pennsylvania  
$50,000,000

**Blackhawk School District**
New Middle School, Gym addition and High School renovations  
Chippewa, Pennsylvania  
$34,000,000

**Penn-Trafford School District**
High School additions and renovations  
Harrison City, Pennsylvania  
$30,000,000

**Avonworth School District**
Primary Center  
Pittsburgh, Pennsylvania  
$23,000,000

**Charters Valley School District**
Primary, Intermediate & Middle/High School additions and renovations  
Pittsburgh, Pennsylvania  
$22,511,589 combined

**Kiski Area School District**
North Washington Elementary  
Apollo, Pennsylvania  
$20,392,609

**Frazier School District**
New Pre-K-8 School  
Pennyopolis, Pennsylvania  
$18,000,000

**Plum Borough School District**
Pivik Elementary  
Plum Borough, Pennsylvania  
$15,000,000

**Urban League Charter School**
Renovations and additions  
Pittsburgh, Pennsylvania  
$12,000,000

**Woodland Hills School District**
Renovations to the Wolvarena Football Stadium, West J r. High, High School and Soccer Stadium  
Pittsburgh, Pennsylvania  
$10,100,000

**Pittsburgh Public Schools**
Frick Science and Technology Center  
Pittsburgh, Pennsylvania  
$10,000,000

**Bethel Park School District**
2007 Capital Improvements  
Bethel Park, Pennsylvania  
$6,200,000

**Ringgold Area School District**
High School Cafeteria  
New Eagle, Pennsylvania  
$5,000,000

**Department of General Services**
Indiana University of Pennsylvania  
Keith and Leonard Halls  
Indiana, Pennsylvania  
$25,424,364

**California University of PA**
Athletic Facilities & Roadways  
California, Pennsylvania  
$18,000,000

**Allegheny College**
North Quad Housing  
Meadville, Pennsylvania  
$9,600,000

**EDUCATION**
University of Pittsburgh  
Bachelor of Arts, Architectural Studies  
1989

**CERTIFICATIONS**
LEED® Accreditation (2005)  
LEED® BD & C (2010)  
OSHA 10-Hour  
PA Certified EMT — Basic

**PROFESSIONAL AFFILIATIONS**
Adjunct Staff, 2000 - 2011 University of Pittsburgh  
Board of Advisors, GREEN Building Alliance LEED for Schools  
Associate Member, AIA  
Forbes Road Career Technology Center Advisory Board  
Murrysville Medic 1 Volunteer  
Make-A-Wish Volunteer

**YEARS IN INDUSTRY**
Since 1980

**YEARS WITH MASSARO**
Since 2004
George began in the construction industry in 1983 and since has worked as a Machine Operator, Carpenter, Estimator, and Project Manager. In 2005, he joined Massaro as Lead Estimator for Construction Management Services.

As Lead estimator, George will focus solely on all mechanical systems including fire protection, plumbing, HVAC and electrical (MEP). In his role George will collaborate with the MEP engineers to develop comprehensive budgets, value engineering opportunities, phasing plans and scopes of work.

George follows a great collaborative process and will work directly with the State College Area School District and the Design professionals to develop the project estimates fully aligned with the preferred 30/60/90 level of document completion milestone.

### RELEVANT PROJECT EXPERIENCE

<table>
<thead>
<tr>
<th>Project Details</th>
<th>Location</th>
<th>Cost</th>
</tr>
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<tbody>
<tr>
<td>The Pennsylvania State University Henderson Projects Phases I &amp; II</td>
<td>University Park, Pennsylvania</td>
<td>$74,928,000</td>
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<tr>
<td>Biobehavioral Health and Human Development</td>
<td></td>
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<td>Department of General Services Indiana University of Pennsylvania Keith and Leonard Halls</td>
<td>Indiana, Pennsylvania</td>
<td>$25,424,364</td>
</tr>
<tr>
<td>California University of Pennsylvania Athletic Facilities &amp; Roadways</td>
<td>California, Pennsylvania</td>
<td>$18,000,000</td>
</tr>
<tr>
<td>Pittsburgh Public Schools Schenley High School</td>
<td>Pittsburgh, Pennsylvania</td>
<td>$89,000,000</td>
</tr>
<tr>
<td>Bethel Park School District Replacement High School</td>
<td>Bethel Park, Pennsylvania</td>
<td>$73,000,000</td>
</tr>
<tr>
<td>Fox Chapel Area School District Multiple Schools</td>
<td>Pittsburgh, Pennsylvania</td>
<td>$50,000,000</td>
</tr>
<tr>
<td>Licking County Area School District Career &amp; Technology Education Centers of Licking County Newark, Ohio</td>
<td>Newark, Ohio</td>
<td>$35,000,000</td>
</tr>
<tr>
<td>Blackhawk School District New Middle School, Gym Addition and High School Renovations Chippewa, Pennsylvania</td>
<td>$34,000,000</td>
<td></td>
</tr>
<tr>
<td>Penn-Trafford School District Additions and renovations to the High School Harrison City, Pennsylvania</td>
<td>$30,000,000</td>
<td></td>
</tr>
<tr>
<td>Plum Borough School District Elementary Reconfiguration Plum Borough, Pennsylvania</td>
<td>$27,000,000 combined</td>
<td></td>
</tr>
<tr>
<td>Avonworth School District Primary Center</td>
<td>Pittsburgh, Pennsylvania</td>
<td>$23,000,000</td>
</tr>
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<td>Chartiers Valley School District Additions and renovations to the Primary, Intermediate and Middle School/High School Pittsburgh, Pennsylvania</td>
<td>$22,511,589 combined</td>
<td></td>
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<td>Kiski Area School District North Washington Elementary Apollo, Pennsylvania</td>
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<td>Woodland Hills School District Renovations to the Wolvarena Football Stadium, West Jr. High, High School and Soccer Stadium Pittsburgh, Pennsylvania</td>
<td>$10,100,000</td>
<td></td>
</tr>
</tbody>
</table>

### EDUCATION

- Machinists Apprentice Program
- Community College of Allegheny County

### CERTIFICATIONS

- LEED® GA (2010)
- OSHA 10-Hour

### YEARS IN INDUSTRY

- Since 1983

### YEARS WITH MASSARO

- Since 2005
Mariela Viloria  LEED® AP BD+C
Lead Estimator

Mariela has been in the construction industry since 1986. She began her career as a project planner and market analyst, where she was responsible for purchasing raw materials and operating supplies, cost control and contractor negotiation. Mariela joined Massaro in 2000 and is responsible for estimating jobs in excess of $20,000,000.

RELEVANT PROJECT EXPERIENCE

**West Virginia University**
AERB Building
Morgantown, West Virginia
$32,000,000

**CAPA School of Pittsburgh**
Public School
New Performing Arts Facility
Pittsburgh, Pennsylvania
$21,660,000

**West Virginia University**
Oglebay Hall
Morgantown, West Virginia
$18,498,000

**West Virginia University**
Animal Annex
Morgantown, West Virginia
$17,000,000

**Marietta College**
Ban Johnson Field House
Marietta, Ohio
$16,656,000

**University of Pittsburgh**
University Club
Pittsburgh, Pennsylvania
$12,000,000

**Saint Vincent College**
The Fred M. Rogers Center
Latrobe, Pennsylvania
$12,000,000

**Saint Vincent College**
Kennedy Hall - New Student Activity Center
Latrobe, Pennsylvania
$10,500,000

**Franciscan University of Steubenville**
Saints Louis & Elizabeth Halls
Steubenville, Ohio
$8,848,445

**Allegheny College**
Renovation of Existing Dormitory and Construction of New Dormitory/Residence Hall Meadville, Pennsylvania
$7,700,000

**University of Pittsburgh**
Sutherland Hall Phase II
Pittsburgh, Pennsylvania
$2,295,086

**University of Pittsburgh at Bradford**
Swarts Hall Renovation
Bradford, Pennsylvania
$5,075,000

**University of Pittsburgh**
Cathedral of Learning
Fire Protection
Pittsburgh, Pennsylvania
$737,000

**Saint Vincent College**
Aurelius Hall
Latrobe, Pennsylvania
$3,306,770

**Duquesne University**
St. Martin’s Hall Renovations
Pittsburgh, Pennsylvania
Phase II
$881,727

**Saint Vincent College**
The Fred M. Rogers Center
Latrobe, Pennsylvania
$12,000,000

**Institute for Scientific Research**
Fairmont, West Virginia
Phase I
$26,000,000

EDUCATION

Andres Bello University
Caracas, Venezuela, 1988
Bachelor of Science
Civil Engineering

**EDUCATION (CONT.)**
Metropolitan University
Caracas, Venezuela
Construction Management Studies

Venezuelan School of engineers
Caracas, Venezuela
Business Negotiation Strategies

**EDUCATION (CONT.)**
Jose Maria Vargas University
Caracas, Venezuela
Business Administration Studies

**CERTIFICATIONS**
LEED® BD & C

YEARS IN INDUSTRY
Since 1986

YEARS WITH MASSARO
Since 2000
Ryan Cole  LEED® AP BD+C
Project Engineer and BIM Manager

Ryan joined Massaro in 2011 and has served in both a Project Engineer and BIM Manager role. Ryan's responsibilities include:

1. Enforce “SAFETY ABOVE ALL” on the project.
2. Assist in coordination of the design through the use of BIM models while also providing constructibility and facilities management reviews of the design.
4. Coordinate pre-bid Requests for Information.
5. Coordinate construction BIM models and shop drawings with Prime Contractors and Design Professionals.
6. Review submittals and confirm conformance to the specifications of a project prior to the Design Professionals reviews.
7. Review and coordinate Requests for Information between Prime Contractors, Design Professionals, and the Owner.
8. Document meeting minutes.
9. Provide on-site QA/QC of the installed work.
10. Provide weekly reports to the Owner of the status of the project.

Ryan's previous experience as an architect involved him in the design development and documentation of projects. His experience includes higher education, cultural, and commercial buildings along with buildings that have pursued the Living Building Challenge and LEED Platinum certifications. Ryan began developing his skills in computer modeling in the early 2000's with a focus on BIM starting in 2006. Over the years, Ryan's experience has grown through multiple BIM projects with major universities as well as working with software developers to better develop their products. His services to State College Area School District will be enhanced from this experience and the Project Engineer assignments he has completed in Centre County.

RELEVANT PROJECT EXPERIENCE

**The Pennsylvania State University**
Henderson Projects Phases I & II
Biobehavioral Health and Human Development
University Park, Pennsylvania
$74,928,000

**Lawrenceville Holdings, Inc.**
Thunderbird Cafe
Pittsburgh, Pennsylvania
$3,000,000

**Phipps Conservatory & Botanical Gardens**
Center for Sustainable Landscapes
Pittsburgh, Pennsylvania
Project Designer/BIM Coordinator
$15,000,000

**Chautauqua Institution**
Strohl Art Center
Chautauqua, New York
Project Designer/BIM Coordinator
$4,750,000

**The Pennsylvania State University Greater Allegheny Campus**
Frable Building
McKeensport, Pennsylvania
Project Designer/BIM Coordinator
$1,000,000

EDUCATION
Virginia Polytechnic Institute and State University (Virginia Tech)
Bachelor of Architecture
Minor in Industrial Design

CERTIFICATIONS
LEED® AP BD+C
OSHA 30-Hour
First Aid/CPR/AED
Aerial Lift Operator
Permit Required Confined Space Rescue
Fall Protection Safety

AFFILIATIONS
Push America Volunteer
Habitat for Humanity Volunteer
Peters Township School District, Varsity Hockey Coach 2008-2013
USA Hockey Referee

YEARS IN INDUSTRY
Since 2006

YEARS WITH MASSARO
Since 2011
Joseph A. Massaro III received his undergraduate degree from Boston College in 1985 and subsequently received his J.D. degree from the Columbus School of Law at The Catholic University of America in 1988. Joe’s first position after graduation was with Foley, Hoag & Eliot as an associate specializing in real estate and corporate law.

In 1989 Joe joined Massaro as general counsel for a few years before he went on to practice law as an associate with Holland & Knight in their construction practice group. He remained there until March of 1995 when he re-joined Massaro Corporation as a project manager. Through the years, Joe was promoted to several positions and in 2002 was named president of Massaro Corporation because of his vision for the company and natural leadership ability.

Today, Joe is the President and CEO of Massaro Construction Group (MCG). MCG was established in 2014 and is the parent company of the Massaro business units, they include Massaro Corporation, Massaro Construction Management, LLC; Massaro Restoration Services, LLC; Massaro Design Build, LLP; and Hogg Construction, LLC. Since 1967, Massaro has been serving the region with commercial general construction and today provides an array of offerings including agency construction management, 24/7 emergency response, design build services, commercial real estate services, and general construction services in central Pennsylvania.

Joe's unwavering belief in MCG's mission is the foundation for the company's growth and strategic plan. Under his leadership and guidance, Massaro is on a journey to performance excellence to benefit of our workforce, our customers and the community.

PROFESSIONAL AFFILIATIONS

Western Pennsylvania School for Blind Children
Board of Trustees

Pennsylvania Economy League of Greater Pittsburgh
Board of Directors

Gateway Rehabilitation Center
Board Member

Central Catholic High School
Board Member

Labor Management Clearinghouse
Project Oversight Committee

EDUCATION

The Catholic University
Columbus School of Law
J.D.
1988

Boston College
Bachelor of Arts
1985

YEARS IN INDUSTRY 23
YEARS WITH MASSARO 19
Christopher J. Lasky  
AIA, NCARB  
Vice President, Construction Management Services

Chris is a registered Architect and has been working in the construction industry since 1992.

His experience includes educational and creative arts buildings, high density multi-family housing, world headquarter facilities for global corporations, large-scale historic preservation, government security, and extensive urban planning. Chris has 15 years of construction management experience and 10 years of public school CM experience.

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<th>PROJECT EXPERIENCE</th>
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<tr>
<td><strong>The Pennsylvania State University</strong></td>
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<td>Henderson Projects Phases I &amp; II Biobehavioral Health and Human Development</td>
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<td>University Park, Pennsylvania</td>
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<td>$74,928,000</td>
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<td><strong>Bethel Park School District</strong></td>
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<tr>
<td>Replacement High School</td>
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<td>Bethel Park, Pennsylvania</td>
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<td>$73,000,000</td>
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<td><strong>Fox Chapel Area School District</strong></td>
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<td>Renovations/additions to multiple schools</td>
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<td>Pittsburgh, Pennsylvania</td>
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<td>$50,000,000</td>
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<td><strong>Penn-Trafford School District</strong></td>
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<td>Elementary Reconfiguration</td>
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<td><strong>Avonworth School District</strong></td>
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<td>Primary Center</td>
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<td><strong>Chartiers Valley School District</strong></td>
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<td>Additions &amp; renovations to the Primary, Intermediate &amp; Middle/High School</td>
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<td><strong>Kiski Area School District</strong></td>
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<td><strong>Frazier School District</strong></td>
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<td><strong>Washington Junior/Senior</strong></td>
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<td>High School Owner’s Rep and Project Inspection</td>
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<td><strong>Ringgold Area School District</strong></td>
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<td>High School Cafeteria Renovations and Additions</td>
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<td><strong>Environmental Charter School</strong></td>
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<td>Shady Lane Renovations</td>
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<td><strong>Department of General Services/Indiana University of Pennsylvania</strong></td>
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<td><strong>Butler County</strong></td>
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<td>Plum Borough, Pennsylvania</td>
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**EDUCATION**
The Cooper Union for the Advancement of Science and Art  
Bachelor of Architecture

**CERTIFICATIONS**
Registered Architect, Commonwealth of Pennsylvania, State of Ohio

**PROFESSIONAL AFFILIATIONS**
American Institute of Architects Documents Committee  
Board Member and Treasurer, Construction Management Association of America - Three Rivers

**YEARS IN INDUSTRY**
Since 1992

**YEARS WITH MASSARO**
Since 2007
Nancy Gorgas
Senior Project Engineer

Nancy joined Massaro CM Services in 2008 and has since worked on projects in the K-12, higher education, government, and commercial arenas. Prior to joining Massaro, Nancy worked in the project management of retail and restaurant ventures.

RELEVANT PROJECT EXPERIENCE

Bethel Park School District
Replacement High School
Bethel Park, Pennsylvania
$73,000,000

Kiski Area School District
North Washington Elementary
Apollo, Pennsylvania
$20,392,609

Plum Borough
Elementary Reconfiguration
Plum Borough, Pennsylvania
$27,000,000

Ringgold Area School District
High School Cafeteria Renovations and Additions
New Eagle, Pennsylvania
$5,000,000

Blackhawk School District
New Middle School, Gymnasium Addition and High School Renovations
Chippewa, Pennsylvania
$34,000,000

Quaker Valley School District
Quaker Valley Recreation Association
Fields at Bell Acres
Sewickley, Pennsylvania
$5,000,000

Bethel Park School District
2007 Capital Improvements
Bethel Park, Pennsylvania
$6,200,000

The Pennsylvania State University
Henderson Projects Phases I & II
Biobehavioral Health and Human Development
University Park, Pennsylvania
$74,928,000

California University of Pennsylvania
Athletic Facilities & Roadways
California, Pennsylvania
$18,000,000

Butler County, Pennsylvania
Butler County Prison
Butler, Pennsylvania
$39,000,000

Plum Borough
Municipal Center
Plum, Pennsylvania
$6,624,030

Phipps Conservancy & Botanical Gardens
New Center for Sustainable Landscapes
Pittsburgh, Pennsylvania
$15,000,000

Wyndham Hotel Conversions
Mid-West Portfolio (22 locations/6 States)
Illinois, Wisconsin, Iowa, Michigan, Minnesota, Texas
$30,000,000

FFC Capital
Mid-Atlantic Real Estate Holdings (11 Properties/6 States)
Pennsylvania, Ohio, Maryland, Texas, Nebraska

Pittsburgh Leadership Foundation
Storehouse for Teachers
Pittsburgh, Pennsylvania
$2,500,000

EDUCATION

The Pennsylvania State University
Bachelor of Architectural Engineering
1991

CERTIFICATIONS

- LEED® GA Accreditation
- OSHA 10-Hour
- OSHA 30-Hour

YEARS IN INDUSTRY
10

YEARS WITH MASSARO
6
Crystal L. Schafer
Safety Director

Prior to joining Massaro in 2004, Crystal worked in the construction industry for five years. This experience included briefly working as site secretary before taking on the responsibilities of site safety manager. Since joining Massaro, Crystal has been promoted to her current role as safety director. Crystal leads Massaro safety in its efforts to establish and ensure best practices in jobsite safety.

**PROJECT ROLE**
As safety director, Crystal looks at all aspects of safety, from written policies and procedures to observing work practices of our employees and subcontractors. This effort ensures that site conditions are safe, workers are working safely, and the tools needed to work safely are always available. Crystal's project responsibilities include:

- Coordinate and conduct site inspections to ensure safety regulations set forth by both Massaro and the Occupational Safety and Health Administration (OSHA) are upheld and enforced
- Coordinate and conduct training for superintendents, foreman and office staff
- Manage worker’s compensation, general liability and automobile claims as necessary
- Update and implement current policies regarding new safety and health regulations

**CERTIFICATIONS:**

- OSHA 10-Hour
- OSHA 30-Hour
- OSHA 500 Trainer Course
- OSHA Compliance and Workplace Safety
- First Aid/CPR Lay Responder Instructor
- Safety Training for the Focus Four Hazards in Construction
- Western Pennsylvania Safety Council, Respiratory Protection Program
- AGC Accident Prevention and Loss Control Training Program
- Awareness Training for Crane Managers
- Fall Protection

**EDUCATION**

- West Virginia University
  Master of Science
  Safety and Environmental Management
  2001
- Associated General Contractors of America
  Safety Management Training Course
  1999
- Occupational Safety and Health Administration
  30-Hour Standards for the Construction Industry
  1999
- West Virginia University
  Bachelor of Science
  Business Administration
  Major in Human Resources and Operations Management
  1998

**YEARS IN INDUSTRY**

- 13

**YEARS WITH MASSARO**

- 10

**PROFESSIONAL AFFILIATIONS**

- The Associated General Contractors of America, Member
- American Society of Safety Engineers, Member
- MBA Safety Committee, Member
Separation of Work and Multiple Prime Contracts

The size, duration, phasing and overall scope of State High’s new and renovation work will require carefully planned and executed strategies to hold schedule and budget. Massaro strongly believes that our construction management processes, when followed correctly, gives the entire project a detailed well managed path to success. Most projects of this size and complexity start off with the team believing that they are in control of events yet to occur. Construction Managers often run into trouble when they fail to develop and adhere to good processes to manage school construction projects. The three main reasons they do not deliver the intended results to their clients are:

1. They did not have proven well managed management processes for preconstruction and construction
2. They had the wrong processes.
3. They did not follow their processes during the project.

Massaro has developed well managed, sustainable processes for multiple prime projects. They have proven to be very successful in providing our clients with detailed management of all of the steps from preconstruction through project close-out. Our proposed team has been extensively involved in the development of the contract documents and the management of both the preconstruction and construction for multiple prime projects in State College using our established processes and strategies.

Massaro will take a very open and collaborative approach in working with the School District and their Clerk of the Works, the design professionals and the prime contractors. Even though the major contracts are separated, we believe that everyone is a teammate and must be treated with openness and respect. Walls and barriers that prevent building teams from functioning at a high level must be avoided. Massaro follows the principles that a healthy well organized project team must trust one another, hold each other accountable, have a high degree of clarity, strives to over-communicate, has alignment of goal oriented tasks and can conduct robust debates on project issues eventually reaching a total commitment on decisions reached. We will take the lead for State High in establishing this real collaborative working atmosphere.

To insure that the separation of contracts with the multiple primes does not lead to separation of efforts that could impact the project cohesion, Massaro will provide State High with the following proven strategies to help produce the final related contract documents.

- Meet extensively with Crabtree Rohrbaugh & Associates during all levels of the design development. We will partner with them in a comprehensive review of the developing documents in order to simultaneously build the scopes of work for the prime contractors and the overall bid documents.
- Meet extensively with Mr. Poprick, his staff and Principal Mr. DeShong to develop an efficient safety and site logistics plan that prioritizes student, staff and faculty safety on a daily basis. We will also meet with all district’s transportation representatives to develop a daily traffic logistic plan that can be modified as the project moves through the phases. This will include an overall site logistics plan for parking and access for service and emergency vehicles. Massaro will incorporate all of these site safety and logistics plans in to the front end specifications for bid inclusion and ownership in all of the prime contracts.
- Meet extensively with the School District to develop the safety plans for all buildings during construction and logistics planning. These will include detailed graphics and specifications for all construction barriers, safety crossings, protected walkways, safety and directional signage and all other aspects to insure the safe and proper separation of the work from the students. These safety plans will be aligned with the project phasing plan and incorporated into the bid and contract documents.
- Massaro will lead the preconstruction meetings using a well-defined sustainable agenda for the entire team. This is essential to insure that the bid and contract documents are completed within the proper milestones.
Separation of Work and Multiple Prime Contracts

Due to the aggressive schedule for State High, we recommend weekly meetings to complete the design process, bid documents and overall bid preparation. The agenda will include – Safety and site logistics, design review, decision and selection points for the District, permit planning and status, schedule, budget & estimate updates, permitting and weekly new business.

- We will work with the team to perform comprehensive constructability reviews for all phases of the work. We will review the drawings, specifications and all other available documents for consistency of information and coordination between trades. This will insure that well-coordinated bid documents are publically issued, reducing the exposure risk to State High for future change orders and schedule impacts.
- A well-defined estimate, that is fully aligned with the design progression, is essential for presenting the District with accurate information to make material and system selections that are fully vetted for incorporation into the bid and contract documents. Massaro will develop, maintain and work weekly with the entire team on an overall comprehensive project estimate. It will be developed from conceptual status through the final document phases following the District’s preferred 30/60/90 design level of reviews.
- Participate in all building walkthroughs, site reviews and all other site surveys to help plan the design and scopes of work to coordinate existing site conditions with the planned renovation and new construction.
- While the design proceeds, Massaro will simultaneously produce the specific front end specification sections that dictate the rules, regulations and policies to which all contractors and other site personnel must adhere. This will included detailed policy descriptions for code of conduct; worker clearance to be in compliance with State regulations; safety and site logistics; traffic control and worker parking; collaboration; meeting frequency and agenda’s and all construction administrative policies relative to schedule, invoicing, submittals, change requests, requests for information and all other aspects that will be fully incorporated into all bid and contract documents.

Badge Management

Massaro knows the importance of student safety. Our Core Value of Safety Above all reflects our shared commitment with the school district that no other function on a project has a higher priority that every student, faculty, staff member, and worker is safe on site and returns home each evening the same way.

A large part of the safety and security management needed for the State High project will require a focused attention on ensuring that the workers and visitors to project have the proper clearances to even be on the School District’s property. Massaro has been responsible for the review and badging of Prime Contractor employees on past K-12 school projects. Most recently on the Bethel Park High School process we processed hundreds of on-site employees. Review of the 4 required clearances (PA Criminal, Child Abuse, FBI fingerprint and Act 24) will be completed with full instructions on the process provided to the Primes during the Bid period. MCMS will maintain a log of all employees and status of clearances and provide the physical badges directly if required. A recommended improvement to the badging process is color coding which was utilized on the Bethel Park HS project. Badges were color coded by Prime Contractor which is an added level of security and control for the building occupants. If an issue were to arise the person involved could be described by the color of their badge helping to identification.
LEED and Commissioning

Massaro’s commitment to building green can be seen in the kind of jobs we pursue as well as the personnel we employ. Our expertise in sustainable building grows with each additional LEED certified project we complete. We know what it takes to deliver sustainable projects that meet the requirements of our clients as well as the USGBC.

Currently we have 16 projects that are either certified or pending certifications. Two of the 16 projects, the Fred M. Rogers Center at St. Vincent’s College and North Village Housing at Allegheny College, are Gold Certified. Both were slated for Silver Certification, but because of the collaboration between the owners, architects and Massaro, and the dedication to building Green, they both achieved Gold status.

Additionally, Massaro has built the largest LEED certified student housing replacement project in the country at Indiana University of Pennsylvania; a four-phase approximately $180,000,000 project. Jim Kephart, our proposed Site Manager for the State High project, was the Site Manager on this project.

As a leader in the green building industry, Massaro has become a USGBC Certified Education Provider, offering continuing education courses to our staff and others in the industry. Under recently enacted LEED regulations, all LEED APs must engage in continuing education in order to maintain LEED AP status. Massaro is now certified to provide that training.

Massaro Construction Group is the only Pennsylvania-based general contractor/construction manager to hold this designation and can provide continuous education for LEED professional.

The State High project presents a tremendous educational opportunity for our staff of professionals to work with State High students. We look forward to the opportunity to develop educational programs that can integrate LEED principles and processes into the District’s curriculum and culture.

ADDITIONAL FACTS
Massaro’s proposed staff includes the following individuals with LEED credentials & experience:

**Dan Kiefer**, LEED AP BD+C

**Tim Jones**, LEED AP BD+C

**Ryan Cole**, LEED AP BD+C

- Phipps Conservatory’s Center for Sustainable Design – LEED Platinum, Cascadia Living Building Challenge (pending), and Four-Stars Sustainable Sites Initiative™ (SITES™) certification for landscapes

**Kevin Nestor**

- St. Vincent College – Rodgers Center – LEED Gold

**George Knoll**, LEED GA

- Phipps Conservatory’s Center for Sustainable Design – LEED Platinum, Cascadia Living Building Challenge (pending), and Four-Stars Sustainable Sites Initiative™ (SITES™) certification for landscapes

**Mariela Viloria**, LEED AP BD+C

**Jim Kephart**

- Indiana University of Pennsylvania – Main Campus Housing – LEED Certified
LEED Certified Projects

**LEED PLATINUM PROJECTS**
- Phipps Conservatory and Botanical Garden Center for Sustainable Landscapes

**LEED GOLD PROJECTS**
- Allegheny College
  North Village Housing Phase II
- Saint Vincent College
  The Fred M. Rogers Conference Center

**LEED CERTIFIED PROJECTS**
- Allegheny College
  North Village Housing Phase I
- Indiana University of Pennsylvania
  Main Campus Housing
  - Phase I
  - Phase II
- West Virginia University
  Oglebay Hall Renovation and Addition
- Lamar Outdoor Advertising
  New Operations Facility
- Massaro Corporation
  Corporate Office Addition
- PNC Bank
  Pine Township Branch

**LEED CERTIFICATION PENDING**
- Allegheny College
  Carr Hall
- Indiana University of Pennsylvania
  Main Campus Housing
  - Phase III
  - Phase IV
- Carnegie Library of Pittsburgh
  Allegheny Branch
- MEDRAD
  Beam One Connector
- PNC Y
  Market Square Location
- Hill House Association
  Kaufmann Auditorium and Elsie Hillman Program Center
- Pitt Ohio
  Trucking Facility

Allegheny College - LEED Gold
North Village Housing Phase II
*Meadville, Pennsylvania*

St. Vincent College - LEED Gold
Fred M. Rogers Conference Center
*Pittsburgh, Pennsylvania*

PNC Bank
Pine Branch
*Pittsburgh, Pennsylvania*
LEED and Commissioning

Building commissioning work is a collaborative team effort to ensure that all operational systems including plumbing, mechanical, and electrical function together properly to meet the design intent and to document system’s performance parameters for fine-tuning of control sequences and operational procedures. The commissioning process shall encompass and coordinate the traditionally separate functions of system documentation, equipment startup, control system calibration, testing and balancing, training, and performance testing. This does not supersede other requirements of the Specifications. It may, however, expand on other requirements of the specifications.

The commissioning team shall be made up of the State College Area School District, the District’s commissioning agent, Massaro CM Services, LLC and representatives from the engineers, major equipment suppliers, and plumbing, mechanical and electrical trades, as required. The lead tradesman for each trade who will actually perform or supervise the commissioning work is to be designated as the representative to the commissioning team. Responsibility for various steps of the commissioning process will be divided among the members of the commissioning team, as described in this section.

Massaro has made great improvements to overall commissioning process through the completion of many projects similar to State High. The team proposed for your project has direct experience in the successful commissioning processes. The Massaro team is trained to start planning for the successful commissioning when they are developing the front end bid specifications, the contractor’s contract scopes and the processing of the project submittals. We do not wait for the substantial completion date to start getting everybody focused on the required commissioning. We align the project’s bids, and daily administration of the construction work, with the eventual commissioning program. Massaro’s team also has worked closely with the entire project team to track and organize all of LEED submission data, test results and required product data to insure a successful submission and review to the USGBC. Massaro promotes and provides leadership in regularly schedule working meetings to keep the team on schedule to reach the commissioning schedule milestones.

Projects where Massaro was involved with the commissioning process include:

- Phipps Conservatory & Botanical Garden; Center for Sustainable Landscapes - LEED Platinum
- Indiana University of Pennsylvania; Main Campus Housing III & IV - LEED Gold
- Indiana University of Pennsylvania; Main Campus Housing I & II - LEED Certified
- Pittsburgh Bureau of Education; Frick STEM - LEED Certified
- The Pennsylvania State University; Henderson Bio-Behavioral Health Building - LEED Certified
- Bethel Park School District; Bethel Park Replacement High School - Green Globes Three
- The Pennsylvania State University; Henderson Health and Human Development Building - LEED Certified (pending)
- Fox Chapel Area School District; Fox Chapel High School - Green Globes Three (pending)
Massaro has had multiple BIM management projects all resulting in great success. Our use of BIM is comprehensively coordinated and aligned with the project management goals of the State High Project that can be customized to provide the district with the benefits of BIM now and in the future. Massaro’s expanded BIM program is a collaborative team effort structured to add value throughout the entire life of the project and beyond. This collaborative effort means that our BIM managers are Massaro employees, not third party consultants, with some being directly assigned onsite at the project.

Massaro’s expertise in BIM use is based on our successful BIM management projects that featured the following:

- **Development of a BIM Management Plan** – Our BIM plan is vetted with the Owner and the Design Professionals and included as a Bid and Contract Document. The Plan is specific and assigns responsibility for the Ownership and transfer of the model through the various stages of the project.

- **Design use of the Model** – Massaro truly believes the use of BIM coordination during design enhances the entire project. Massaro helps manage the coordination between the Design Professionals helping to minimize the errors and omissions commonly seen with uncoordinated drawings as well as providing input on potential constructability concerns. The benefits of using a well-coordinated model during design is not limited to the construction phase. With proper consideration and planning, they will continue through to the Facility Management.

- **Controlled weekly Model review** – Massaro’s BIM Manager leads the contractor’s BIM designers through a controlled weekly model review for clash detection, mechanical systems layout and routing and overall formation of the building structure, façade and interiors. The goal of these structured meetings is a collaborative solution by the trades for a clash-free structure on coordinated drawings. Massaro manages the successful completion of the coordinated drawings into the next sequence with the project submittals.

- **Construction use of the Model** – Massaro uses onsite kiosk displays, knowledge stations in the field office, and Autodesk BIM 360 iPads and laptop remote viewing methods to provide unlimited access to the model for the entire project team. When a rough-in issue arises, we have been very pleased with the response from the contractors who now ask for the BIM model to be brought up for viewing, ahead of a 2D drawing. Massaro also uses the completed model to conduct meetings with the University’s stakeholders, staff and clients to explain project design, construction issues, phasing layout and finishes.

- **Facilities Management** – Just as there is a building life cycle, Massaro sees the benefits of BIM lasting well past the end of construction. Massaro has been working with owners and software providers to incorporate interactive mechanical equipment and material barcode tagging that will be tied directly to the BIM model and facilities management programs. These bar codes are used to survey and log all aspects of the material, equipment and products into a live BIM record that will provide improved access and use by the owner and facilities maintenance personnel for maintenance and future design/renovation needs. These facilities management services can be custom tailored to an owner’s needs and Massaro can help inform owners of all these capabilities.
BIM

Measurable Positive Results from Massaro’s BIM program:

- Comprehensive management of the modeling schedule with a BIM Management Plan that is tied to the project schedule and contracts.

- Collaborative clash detection, both in design and construction, between the architects, engineers, and contractors. Massaro’s experience has shown that proper design clash detection can eliminate as much as six months’ worth of clash detection during construction. This upfront coordination allows the construction coordination to be completed ahead of all coordinated drawings, submittals, mechanical fabrications and equipment placement. The results of this upfront design coordination include less RFI’s, less change orders, less rework of in-place work, and better adherence to the architectural & mechanical intentions of the original documents.

- Increased team collaboration and engagement as the designers, contractors and the Owner stakeholders meet and use the model as the prime visual document in their daily coordination work.

Massaro strongly believes that all of these successful BIM procedures will bring real value to our services at State High. Massaro has received the following comments from contractors and designers with whom we work.

"Have been involved in quite a few BIM coordination jobs. Having the design team pre-coordinate the models for routing and basic fit was a huge help. Saved my construction coordination team large amounts of time and frustration fixing design problems. The process used for this building should be a model for the BIM process." - MEP/FP Contractor

"The coordination process on this job was one of the best I have been on. The clashes were few and were fixable with input from the design team which really helps." - MEP/FP Contractor

"A well lead and prepared BIM coordination team, that was willing to work with each other to find the best routing of each trade.” - MEP/FP Contractor

"Great knowledge of CM team to constructability of design.” - Design Professional
Site Logistics Plan

Massaro did not have to search very far to find an excellent example of a site safety and logistic plan for a project similar to that planned for State High. Our continuing site safety management program at Penn State’s Henderson Health and Human Development project, at 299 East College Avenue, fits the bill exactly. Please review our enclosed sample Safety and Logistic plan. The site safety management plan was developed in the fall of 2010 and continues in operation as of this writing. Massaro established the plan working collaboratively with the College’s building managers, the University’s Office of Police and Public Safety and the prime contractors. It was created to be very adaptable to the changing site operations as the project phases have progressed over the past three years.

We believe our successful development and daily management of this site safety plan will be very similar to that required on the State High project. The similarities, with the requirements of the State High project, can be summarized as follows:

• Safety Above All – This is a site safety program focused on the daily safety and security needs of the Penn State HHD Nursing East students and faculty and staff. It is not a site logistics plan set up for the benefit of construction needs of the project. The efficient planning of the site logistics comes second only after the overall comprehensive safety needs of the building occupants were met.

• The Nursing East building is similar to that planned for the occupied buildings for State High in that it is completely surrounded by daily construction work with vehicle traffic entering and leaving the site. The students, faculty and staff had to be provided with daily safe access. It was Massaro’s responsibility to plan, install and manage all temporary fencing, pedestrian walkways, construction traffic routes and a comprehensive safety signage program that was sustainable and adaptable as the construction progressed.

• Massaro met initially with the building occupants to explain the safety plan and answer questions, comments and concerns. We continue to adjust the safety plan and frequently meet with the Nursing East staff on updates before any adjustments are made on site.

• Massaro’s site safety plan was developed during the preconstruction and design work for the Henderson projects. The site plan enclosed is an actual bid and contract document. All of the prime contractors were given the plan and gave us feedback on how their daily construction work would need to conform. Massaro presented all relevant site logistics information to the primes, ranging from the hours of the day the gates are opened and closed to the maximum length and height for a delivery trucks and construction equipment. Massaro’s proactive approach to safety and contractor site logistics enabled the project front end specifications to include all of these conditions and instructions. Therefore, all bids received and eventually all prime contracts issued have ownership of this safety and logistics plan.

• Massaro has further enhanced the effectiveness of the site safety plan by assigning a traffic manager directly to the center of the student access points. The manager’s duty is to ensure the daily control of all vehicle and equipment access to provide safe passage to and from the building, for all pedestrians, on a daily basis.

• Massaro performs a weekly assessment of the site safety and security conditions. Any concerns by the Owner are immediately addressed with a priority given over any construction site logistic.

• Events for the building occupants vary each week for open houses, student events and orientations as well as regular maintenance issues. Massaro meets frequently with the building staff and fully coordinates any needed site logistic adjustments with the contractors.

• Massaro conducts weekly collaborative safety meetings with the building managers and the prime contractors. Any and all lessons learned from the pedestrian and traffic flows are immediately implemented into the next day’s safety plan adjustments.

Massaro believes our successful experience in the development and daily management of the Penn State Henderson site safety plan would be a great asset for the planning of the similar requirements for State High. We invite you to contact us at any time, if you would be interested in visiting and reviewing this site safety plan in live action.
Emergency Egress Walkways - Temporary Paved Surfaces

Health and Human Development Bldg. - East

BBH Fire Dept. Connection

State College Borough Fired Hydrant

Ground Level ADA Ramp: Primary Entrance and Exit for Daily Use

Student and Staff Ingress and Egress Point

Site Exit

One Way

East College Avenue

Site Entrance

Site Safety Fence & Gates

Massaro Traffic Control Station Traffic Manager Directs Students and Staff for Safe Access to HHD East.

The Pennsylvania State University
HHD East
Site Safety and Logistics Plan for Phases I and II
June 2012 to August 2014

Massaro Traffic Control Station
Traffic Manager Directs Students and Staff for Safe Access to HHD East.
Approach to Value Engineering

There is an inverse relationship between when value engineering ideas are developed and how much it will cost to implement those ideas. Please refer to the chart below. Value engineering ideas that are developed early in the design process can produce great savings to the owner. Utilizing a collaborative process, the School District, design professionals and Massaro will meet during the design development phase to discuss the pros and cons of several different exterior wall design options. During these working sessions, Massaro will price the different options and provide life cycle cost projections. In the end, the School District will be able to choose the systems, equipment and materials that best satisfy both needs and cost parameters. This scenario can provide many sources of savings for the School District:

1. Actual cost savings generated from the more expensive options to the one ultimately chosen.
2. The School District may choose a product/system that has a higher initial cost but will generate savings over its lifetime due its durability (i.e. brick in lieu of stucco or VFD operational controls for the motorized systems).
3. Time and effort on behalf of the design team and construction manager. If these discussions happened much later, it would result in a negative impact on the schedule, with increased project costs, because rework would be needed to implement the new direction.
4. If the value engineering decisions were to occur during the construction phase, without bid coverage, the School District would lose the competitive benefits of open market bidding.

Our approach to value engineering is very proactive. As in the example above we prefer to work with the School District and the design team to study different systems as early as possible in the design phase. Studies on site work, exterior walls, structural, mechanical, and electrical systems can generate great opportunities for savings.

Massaro’s team has related experience on developing these value engineering possibilities. We also strive to organize them into the overall bid documents so that the school district receives complete competitive bid pricing in the form of value engineering alternates. We concentrate on closing the information loop to ensure that the value engineering ideas developed in pre-bid are fully explained in the bid documents and eventually appear in the prime contracts, ready for the School District’s action.
<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
<th>Accepted</th>
<th>Under Review</th>
<th>Rejected</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>General Trades</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 Ground Face Block in Lieu of Brick</td>
<td>($232,850)</td>
<td>($232,850)</td>
<td></td>
<td>($125,000)</td>
</tr>
<tr>
<td>2 Delete Brick @ Interior Columns</td>
<td>($125,000)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 Storefront/metal panels in lieu of curtainwall @ Main Entry</td>
<td>($40,000)</td>
<td>($40,000)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 Delete Shoring @ Gym Entrance</td>
<td>($78,500)</td>
<td>($78,500)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 Tile &amp; GWB in lieu of laminate glass @ 2nd fl hall</td>
<td>($30,000)</td>
<td>($30,000)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6 Different locker spec for boys &amp; girls locker rooms</td>
<td>($42,500)</td>
<td></td>
<td></td>
<td>($42,500)</td>
</tr>
<tr>
<td><strong>ARCHITECTURAL, STRUCTURAL &amp; SITEWORK TOTAL</strong></td>
<td>($548,850)</td>
<td>($381,350)</td>
<td>$0</td>
<td>($167,500)</td>
</tr>
<tr>
<td><strong>MECHANICAL SYSTEMS</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Plumbing/Fire Protection</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 Sched 40 PVC underground in lieu of cast iron</td>
<td>($10,000)</td>
<td></td>
<td></td>
<td>($10,000)</td>
</tr>
<tr>
<td>2 Eliminate tap primers &amp; piping from floor drains</td>
<td>($2,500)</td>
<td>($2,500)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 Kindergarten classrooms to share lit rooms</td>
<td>($47,500)</td>
<td>($47,500)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>PLUMBING TOTAL</strong></td>
<td>($60,000)</td>
<td>($50,000)</td>
<td>$0</td>
<td>($10,000)</td>
</tr>
</tbody>
</table>
# County Line School District

## Fox River Elementary

### VALUE ENGINEERING

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
<th>Accepted</th>
<th>Under Review</th>
<th>Rejected</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>HVAC</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 Two (2) air cooled condensing units in lieu of (3) chillers</td>
<td>$(91,000)</td>
<td></td>
<td></td>
<td>$(91,000)</td>
</tr>
<tr>
<td>2 Delete return air fans &amp; relief air ductwork</td>
<td>$(15,000)</td>
<td></td>
<td></td>
<td>$(15,000)</td>
</tr>
<tr>
<td>3 Utilize (2) chillers in lieu of (3) chillers</td>
<td>$(44,000)</td>
<td>$(44,000)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 Open specification for DDC system</td>
<td>$(150,000)</td>
<td>$(150,000)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>HVAC TOTAL:</strong> $(300,000)</td>
<td>$(194,000)</td>
<td>$0</td>
<td>$(106,000)</td>
<td></td>
</tr>
<tr>
<td><strong>Electrical</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 Utilize EMT in lieu of MC</td>
<td>$(10,000)</td>
<td>$(10,000)</td>
<td></td>
<td>$(105,000)</td>
</tr>
<tr>
<td>2 Use alternative light fixtures</td>
<td>$(105,000)</td>
<td></td>
<td></td>
<td>$(105,000)</td>
</tr>
<tr>
<td>3 Revise/reduce exterior LED lighting package</td>
<td>$(45,500)</td>
<td>$(45,500)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 Metal halide flood lights in lieu of LED</td>
<td>$(58,000)</td>
<td>$(58,000)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>ELECTRICAL TOTAL:</strong> $(218,500)</td>
<td>$(113,500)</td>
<td>$(105,000)</td>
<td>$0</td>
<td></td>
</tr>
<tr>
<td><strong>SUB TOTAL</strong></td>
<td>$(1,127,350)</td>
<td>$(738,850)</td>
<td>$(105,000)</td>
<td>$(283,500)</td>
</tr>
<tr>
<td>Contingency 5%</td>
<td>$(56,368)</td>
<td>$(36,943)</td>
<td>$(5,250)</td>
<td>$(14,175)</td>
</tr>
<tr>
<td><strong>VALUE ENGINEERING TOTALS</strong> $(1,184,000)</td>
<td>$(776,000)</td>
<td>$(110,250)</td>
<td>$(297,675)</td>
<td></td>
</tr>
</tbody>
</table>

**Total Construction Cost** $15,575,000  
**Accepted Value Engineering** $(776,000)  
**Total Construction Cost + Accepted Value Engineering** $14,799,000  
**TARGET BUDGET** $14,500,000  
**DELTA** $299,000
Strategy for Managing Change Orders

**PRECONSTRUCTION**

The Massaro change management process starts well in advance of any change order event arising on the project. We believe that our extensive and focused development of the bidding and contract documents is the very important first step in minimizing the Owner’s exposure to potential change orders.

In preconstruction, during the development of the documents and Prime Contractor scopes of work, through the involvement with the design team, Massaro will review drawings and specifications for completeness, clarity and constructability. We work closely with the design professionals to complete these tasks fully aligned with the intended 30/60/90 development of the documents. As a collaborative team member in preconstruction, our role will be to help ensure that a comprehensive coordinated set of documents are provided to the bidders. Particular attention will be given to the renovation portions of the State High project, as this is where the largest risk for unforeseen conditions exists.

During the bid period, Massaro will manage the pre-bid RFI’s, which is the team’s initial feedback on the quality of the documents from the bidding public. The accurate and definitive responses to pre-bid RFI’s is a critical opportunity for change order avoidance.

At the post bid, Massaro will conduct a scope review meeting with the apparent low bidders to ensure that the documents and scopes of work are understood and also to identify any open issues that potentially lead to change orders. This is a very extensive scope review that will provide the School District and the design professionals with a clear summary of a bidders compliance with the overall bid requirements, confirmation of the submitted bid amounts and an early identification of any issues and contractor deficiencies that must be immediately addressed to ensure coverage in the contract agreements or disqualification.

**CONSTRUCTION**

Following commencement of construction, Massaro will implement our change management process as identified in the flow chart to the right:
Strategy for Managing Change Orders

As issues develop, Massaro will meet collaboratively with the School District’s Clerk of the Works (COTW), design team and prime contractors to review and work towards cost neutral solutions that comply with the design intent. We initially apply the following metrics to any construction issue:

1. Does the School District own the work in the Contract Documents?

   If so, Massaro does not negotiate on any errors or mis-scoped items by the contractors. We firmly believe that is not the School District’s role to fund errors and omissions. We ask the contractors to review the documents and work closely with them to locate the design information that confirms ownership in the contract. We will meet face to face through these issues with them, so that no unnecessary letter writing campaigns will receive more attention than actually building the project.

Project issues that may involve costs to the project are first added to the Owner Exposure log which tracks known issues with undefined solutions. When changes to the project that generate cost occur, our online Prolog management system is utilized for tracking of both estimated and actual cost of the change. Massaro’s rough order of magnitude estimate of changes will act as a placeholder on the Change Order Request (COR) log and be replaced by actual costs once submitted by the Prime Contractors. The total of COR and Owner Exposure Logs generate a blended estimated and actual dollar amount of change orders. These logs will be reviewed with both the design professionals and Clerk of the Works (COTW) in a bi-monthly budget review meeting. The following pages provide samples of the Change Order Logs that Massaro is utilizing on the Penn State HHD Building. These represent our cost control processes that we adhere to in collaboration with the rest of the project team. These processes will be adapted to suit the cost management and change reporting needs of the School District.
# Strategy for Managing Change Orders

<table>
<thead>
<tr>
<th>Issue</th>
<th>Cost Estimate</th>
<th>Company Responsible</th>
<th>Path to Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Column B6 Temp Shorting</td>
<td>15000</td>
<td>Massaro</td>
<td>LSF needs to complete final repair and shoring can be removed</td>
</tr>
<tr>
<td>Standby Transformer</td>
<td>35000</td>
<td>Owner</td>
<td>PSU to provide and set Standby Transformer</td>
</tr>
<tr>
<td>Plumber BID Allowance</td>
<td>-30000</td>
<td>Plumber</td>
<td></td>
</tr>
<tr>
<td>HVAC BID Allowance</td>
<td>-50000</td>
<td>HVAC Prime</td>
<td></td>
</tr>
<tr>
<td>Electrical BID Allowance</td>
<td>-50000</td>
<td>Electrical Prime</td>
<td></td>
</tr>
<tr>
<td>ADA upgrades</td>
<td>30000</td>
<td>General Trades</td>
<td>AE ADA report - TRU changed to 30k on 4/28/14</td>
</tr>
<tr>
<td>ST Escalation</td>
<td>100000</td>
<td>General Trades</td>
<td>80k/mo. max 4 months pending early project completion date - Owner Delay</td>
</tr>
<tr>
<td>ST Bond Increase</td>
<td>100000</td>
<td>General Trades</td>
<td>Value of 1% of their change order for bond increase (review it with PSU)</td>
</tr>
<tr>
<td>Landscape Escalation</td>
<td>100000</td>
<td>Landscape</td>
<td>Landscape letter locked this in (micros add to COR log) - reason Owner delay</td>
</tr>
<tr>
<td>Possible Temp elec credit</td>
<td>-50000</td>
<td>Electrical Prime</td>
<td>Does EC own getting temp elec from transformer into ETR</td>
</tr>
<tr>
<td>Classroom upgrades</td>
<td>-50000</td>
<td>AE</td>
<td>AE to identify what was upgraded in ETR classrooms that CC could pay for</td>
</tr>
<tr>
<td>ETR Flooring</td>
<td>110000</td>
<td>Owner</td>
<td>MCMS Estimate 17740 SF @ 50/SF for VCT (based on LSF bid day unit price)</td>
</tr>
<tr>
<td>ETR Parking</td>
<td>67000</td>
<td>Owner</td>
<td>MCMS Estimate 23,000 SF @ $1.00/SF with 3 coats</td>
</tr>
<tr>
<td>ETR floor leveler</td>
<td>43000</td>
<td>MCMS</td>
<td>$1/sf risk</td>
</tr>
<tr>
<td>Water heater - MUP rooms</td>
<td>-20000</td>
<td>General Trades</td>
<td>Credit because admixture says it's not required</td>
</tr>
<tr>
<td>Rubber Base</td>
<td>32000</td>
<td>General Trades</td>
<td>D' = $3,000 FT &amp; 2.5' = $1,277/FT - Tracked unit price in field (CDR 099 / SPI 041)</td>
</tr>
<tr>
<td>CWP entrance</td>
<td>15000</td>
<td>HVAC Prime</td>
<td>Modification to entrance by HVAC to make CWP connection (added 45's etc)</td>
</tr>
<tr>
<td>ETR seating - upgrade</td>
<td>42000</td>
<td>General Trades</td>
<td>Classroom will pick up upgrade charge for ETR charts</td>
</tr>
<tr>
<td>ETR bathroom flooring</td>
<td>25000</td>
<td>AE/MCMS</td>
<td>Review of ETR bathroom floors and patches needed</td>
</tr>
<tr>
<td>Exposed deck in PH</td>
<td>-10000</td>
<td>MCMS</td>
<td>AE noted the deck should have been painted - possible credit?</td>
</tr>
<tr>
<td>ETR slab moisture content</td>
<td>82000</td>
<td>MCMS</td>
<td>At noted SDG at ETR may have moisture content issues</td>
</tr>
<tr>
<td>Classroom upgrade</td>
<td>20000</td>
<td>AE</td>
<td>SFI 01% will be issued week of 4/29</td>
</tr>
<tr>
<td>HHD East grade raise</td>
<td>10000</td>
<td>AE</td>
<td>E66 grade raise at the west side of HHD East</td>
</tr>
<tr>
<td>Overrun on testing</td>
<td>50000</td>
<td>Testing Agency</td>
<td>Testing Agency to provide revised not to exceed number for Owner.</td>
</tr>
<tr>
<td>HHD East pedestrian</td>
<td>100000</td>
<td>General Trades</td>
<td>Parking and dumpsters paid</td>
</tr>
<tr>
<td>ADA tactile granite pavers</td>
<td>50000</td>
<td>General Trades</td>
<td>RFI closed and LSF will price</td>
</tr>
<tr>
<td>Room 350</td>
<td>45000</td>
<td>MCMS/Owner</td>
<td>MCMS to price - classroom committee to fund? Approx 180k</td>
</tr>
<tr>
<td>Credit for Ce Envelope scope</td>
<td>-45000</td>
<td>MCMS/Owner</td>
<td>Eliminate scope of Selecta Ce the envelope</td>
</tr>
<tr>
<td>ETR lab static balance</td>
<td>-20000</td>
<td>AE</td>
<td>AE to issue SPI to eliminate new controls of the existing dampers in the ETR labs</td>
</tr>
<tr>
<td>ETR exhaust Fans</td>
<td>15000</td>
<td>HVAC/EC</td>
<td>RFI's/ SPI issued to add replacement controls - we will not be replacing the units.</td>
</tr>
<tr>
<td>Exposure Log Total</td>
<td>$567,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Current COR Log Total</td>
<td>$2,612,869</td>
<td></td>
<td>Pull from current Prolog CDR log</td>
</tr>
<tr>
<td>Projected Contingency Draw</td>
<td>$3,179,869</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Exposure Log and Summary Total – Ref: PSU HHD Project
Strategy for Managing Change Orders
Strategy for Managing Change Orders

Submitted Proposed Change Orders (PCO’s) are provided to Massaro by the Prime Contractors. PCO documents are uploaded into Prolog and attached to the existing PCO. Massaro’s review includes detailed analysis of modified scope against proposed changes and quantities. All reviewer notes are captured in Prolog and PCO’s are distributed to the Design Team and Owner for their review and action using sortable “status” fields. Once in Prolog, reviewers will have quick and direct access to all associated documents and previous review comments. The utilization of Prolog keeps change order review organized and timely. Below is a sample of a PCO review cover sheet generated from Prolog.

Following PCO approvals, Massaro will generate the formal contract Change Order on behalf of SCASD. This change order, through Prolog will then tie directly into the Prime Contractors monthly Application for Payment which is also completed through Prolog.

Our use of Prolog throughout the change management process provides the entire project team with direct and real time access to the data and reports surrounding the project.
Strategy for Managing Change Orders

SAMPLE PROJECT - Penn State Health and Human Development Building

Massaro also takes the change order management process to the next level of reporting by using the documented costs and projections to provide our clients with reportable metrics for identification of costs trends for the use in future planning.

The Penn State Health and Human Development is the current project the proposed State High team is managing. The HHD Building is a 140,000 SF, $42,000,000 project. The project has involved many owner directed and unforeseen conditions, particularly related to the 40,000 SF renovation portion of the project. Below is a sample of the reporting graphs Massaro uses to report to the University on the requested metric analysis. These provide a monthly breakdown of change orders trends by category. This data has proven to be very valuable in evaluating the cost changes on the HHD project. This entire process, including the use of these metric reports, will also be a valuable tool in the management of the State High project.
Section 9 Firm Experience
The Henderson Biobehavioral Health Building was the first phase of a two-phase, Department of General Services-funded project for the College of Health and Human Development. The Biobehavioral Health Building replaced the Henderson Bridge that connected Henderson North with Henderson South. This new 94,000 square foot academic building provides offices for the HHD administration as well as staff and graduate students. The building also provides academic spaces including a large 200-seat auditorium.

This project incorporates many green features including a green roof and a water collection system. It is anticipated that this project will achieve LEED Certified accreditation.

Located between Old Main Lawn and the HUB Lawn, this project impacted every conceivable university utility. Extensive work to the existing site storm water system included modifications to the existing 48” and 54” diameter lines that transverse the campus from east to west. New storm water features include underground detention tanks and 1,000 linear feet of pipe. This project was completed for occupant move in Fall 2012.

A critical part of this project was the move management services performed by MCMS. We managed the consolidation of five on and off-campus facilities to this one new facility. These moves included relocating 200 staff, 3200 boxes of staff and office property, and 33 office machines.

Self-Appraisal
- Very collaborative design phase with owner and design team
- Successful value engineering efforts by owner, design team and construction manager
- Fully integrated BIM model not used to its fullest potential
- Very successful move in of new occupants
- Below budget on bid day
The Health and Human Development Building is the second phase of a two-phase, Department of General Services-funded project for the College of Health and Human Development. The HHD building will replace, in part, the existing Henderson South Building. This new academic/research building combines 93,000 square feet of new construction with a 39,000 square feet of renovation of existing lab space that currently exists in Henderson South.

In addition to classrooms, labs and office space, the HHD Building will also house the Dean’s Office of the College of Health and Human Development. Public spaces have been designed so that the college can host both formal and informal events. The building’s main feature is a four-story atrium that opens onto an exterior gathering space overlooking College Avenue.

The HHD Building incorporates many green features and is expected to achieve a LEED-certified accreditation.

A major challenge of the HHD project is the renovation portion. Typical to all renovation work, Massaro is taking an active role in managing the unforeseen conditions and working with the Design Team, Contractors and Owner to develop solutions to identified issues.

The Health and Human Development building is currently on schedule.

### Construction Document Estimates

- **Contract Type**: Agency Construction Management
- **Owner Contact**: The Pennsylvania State University, Mr. John R. Bechtel, PE
- **Architect Contact**: Bohlin Cywinski Jackson, Mr. Allen Kachel, AIA, LEED AP
- **Project Type**: New Construction, Renovation, Higher Education
- **Completion Date**: October 2014
- **Construction Value**: $43,500,000
- **Prime Contractors**: 17
- **Start Date**: December 2012
- **Project Size**: 105,505 sf new, 39,147 sf renovations

### Self-Appraisal

- Fully integrated BIM model very successful
- Successfully implementing Integrated Project delivery
- Successfully implementing 17 bid packages
- Successfully implementing pull planning

### Rendering by Bohlin Cywinski Jackson

<table>
<thead>
<tr>
<th>Construction Document Estimates</th>
<th>$42,323,600</th>
</tr>
</thead>
<tbody>
<tr>
<td>Actual Bid Total</td>
<td>$39,216,374</td>
</tr>
</tbody>
</table>
Massaro CM Services was hired by the Bethel Park School District to provide both preconstruction and construction management services for the district’s new 320,000 square foot replacement high school. This project was constructed adjacent to the existing high school along Church Road. The new facility completely replaced the existing eight building campus with a single structure divided into three major components: academics, fine arts and athletics.

The 151,000 square foot academic wing houses 75 classrooms and 12 labs for science, family and consumer sciences, business, math and a TV studio.

The 73,000 square foot fine arts wing includes an 11,000 square foot, 1,050 seat auditorium as well as classrooms, ensemble areas, choral rooms and instrument practice rooms for the music and theatre arts programs.

The athletic facilities include a 2,350 seat competition-sized gymnasium, auxiliary gym, eight locker rooms, natatorium with an eight-lane pool and diving well, 3,000 square foot weight room and an indoor rifle range.

Self-Appraisal
- Collaborative effort between Massaro, Owner & 14 prime Contractors
- Project finished under budget
- Project finished seven months early
- 2013 winner of the Master Builders Association’s Excellence Award for new construction over $25 million
Massaro CM Services has recently been awarded the contract to provide preconstruction and construction phase services for the renovations and additions to the Fox Chapel Area High School, Dorseyville Middle School, O’Hara Elementary, Kerr Elementary, and Fairview Elementary buildings. The high school project consists of interior renovations including upgrades to rest rooms, new doors/frames/hardware, replacement windows, and reconfiguration of interior space into classrooms, kitchen/cafeteria, library and commons space. Additions include a competition-sized pool, district offices, and an expansion to the auditorium. All work will be conducted in an occupied building during phased construction.

Self-Appraisal:
Of the five projects listed, the High School is the only project that has completed design and gone out to bid and is currently in its third month of construction. This self-appraisal applies to the Design and Bidding phases only.

Construction Document Estimate and Actual Bid Total:
Currently unavailable because the project is in the design phase.

Self-Appraisal cont.
- Massaro’s initial budget exceeded the Architect’s budget by 100% ($36 million vs. $18 million)
- Worked diligently with the Owner to reduce scope & develop revised budget
- Project lagged due to amount of re-design required, but still hit the target bid date of January 21, 2014
- Low bids were below revised budget
section 10 Fee
Assumptions & Qualifications
1. Total Project cost including all soft costs and hard costs is approximately $115 million.
2. The design phase will begin in June/July 2014 and conclude in March 2015.
3. The bidding phase will begin in March 2015 and conclude in April 2015.
4. The construction phase will begin in June 2015 and conclude in August 2018.
5. Construction will be phased to accommodate an occupied building.
6. All project-related costs and anticipated reimbursables are included in pricing provided.
7. Base fee includes $36,000 for paid internship opportunities for State High Students.
8. Base fee includes all reimbursables for the duration of the project.

Comprehensive Construction Management Services
Our base fee for this project is:

<table>
<thead>
<tr>
<th>Phase</th>
<th>Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design and Bidding Phases</td>
<td>$215,000</td>
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<td>Construction and Close Out Phases</td>
<td>$2,025,000  ($50,625/Month)</td>
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<tr>
<td>Field Office, Supplies &amp; Equipment</td>
<td>$162,730  ($4,068/Month; see attached)</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>$2,402,730</td>
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</table>

Additional Costs:
1. Massaro CM Services will attend any meetings required for the execution of the State High project. The district will not be billed for these hours.
2. In the event that the District elects to utilize BIM and requires Massaro CM Services, LLC to provide a BIM Coordinator for both design and construction phases.
   Total ADD: $72,500.00
3. In the event that the Massaro field office needs to be expanded to facilitate Collaboration/Integrated Project Delivery. Total ADD: $75,000.00

The base fee includes:
**Preconstruction Phase**
- Evaluate project options
- Develop, implement and monitor an overall project budget including all soft and hard costs.
- Develop a project delivery strategy
- Develop and monitor a project master schedule
- Perform cost estimating and value engineering studies at the conclusion of the schematic design, design development and construction document phases
- Perform constructability reviews
- Provide monthly reports
- Conduct design coordination meetings
Comprehensive Construction Management Services (cont.)

**Bidding Phase**
- Develop bid packages
- Develop construction schedule
- Develop contractor and supplier interest
- Establish and implement bidding procedures
- Distribute bid documents
- Conduct pre-bid conference
- Receive and evaluate bids
- Prepare construction contracts

**Construction Phase**
- Conduct pre-construction meetings
- Maintain on site staff
  - Full-time and on site: one each (1) project manager and one each (1) project engineer
  - Part time safety director
- Maintain off site support staff
  - As needed support from MEP coordinator, estimating, site management and engineering staffs
- Process all shop drawings and submittals
- Project coordination
- Review lead prime’s construction schedule
- Monitor construction progress
- Control construction quality
- Maintain construction records
- Process applications for payment
- Maintain construction accounting system
- Conduct construction project and superintendent meetings
- Prepare and maintain field reports
- Process change orders
- Coordinate inspections and testing
- Recommend construction changes
- Maintain photographic records
- Provide monthly reports
- Monitor and implement safety programs

**Closeout Phase**
- Develop close-out program
- Coordinate systems and equipment testing
- Process operation manuals and warranties
- Coordinate training
- Coordinate substantial and final inspections
- Coordinate construction close-out
- Submit project documentation
- Coordinate warranty work
**State College Area School District**  
**State College High School**

### Direct Costs

**Construction Duration:** 40 Months

<table>
<thead>
<tr>
<th>Description</th>
<th>Quan</th>
<th>Unit</th>
<th>$/Unit</th>
<th>Total</th>
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</thead>
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<td>Tear Down</td>
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<td>LS</td>
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<tr>
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$162,730.00

$/Month $4,068
FIELD TESTED. CLIENT TRUSTED.
Construction Management Services