

2016 Gold Circle Awards Nomination





2016 Gold Circle Awards Nomination
Category: Outstanding Workmanship - Steep Slope
Client: The Cathedral of St. Paul, Birmingham, Alabama
Nominee: Midland Engineering Co., Inc., South Bend, IN

Official Nomination Form

Please complete this form and include it with your nomination package.

Nominated company information

Award Category (check only one):

- Outstanding Workmanship—Low-slope Outstanding Workmanship—Steep-slope
 Innovative Solutions—New Construction Innovative Solutions—Reroofing
 Service to the Community Service to the Industry

All entries received will be reviewed for safety preparedness and performance. Companies demonstrating superior safety measures will be honored with an NRCA Gold Circle Safety Award.

XX, 201X - XX, 201X The Cathedral of St. Paul, Birmingham, Alabama

Project Date(s)

Official Project Name

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Supplier

Affiliation with nominated company

Each entry is carefully scrutinized and evaluated by respected professionals. Entries will be judged against a high standard of excellence rather than against each other. Winning projects are not based on the number of entries in each category but for achieving a designated score. Each category will not necessarily have a winner.



2016 Gold Circle Awards
Category: Outstanding Workmanship- Steep Slope
Project Description

Expectations and the Selection Process:

When the Catholic Archdiocese of Birmingham, Alabama initiated plans to renovate the Cathedral of St. Paul, they had one clear requirement for the new roof system: that it would be a historically accurate reproduction of the original being replaced, in materials, design and craftsmanship. Their general contractor, Hoar Construction of Birmingham, knew this would be no easy task, given the intricate, multi-colored slate patterns in the 122 year old main roof and steeples, ornate copper cornices, and dozens of unique copper architectural features commissioned specifically for St. Paul's over a century ago.

They agreed that Hoar would identify a pool of qualified roofing contractors with a demonstrated expertise in similar historic renovations to include in an exhaustive pre-qualification process. Midland was identified and pre-selected when a search of national roofing contractors revealed our work on the Basilica of the Sacred Heart at the University of Notre Dame (similar architecturally to St. Paul) and 93 years experience on a host of other historic projects across the country.

After submitting a detailed written pre-qualification, Midland was selected as one of three contractors chosen to quote the project and make a presentation, and was subsequently awarded the contract.

About the Cathedral of St. Paul:

The Cathedral of St. Paul is the centerpiece of the Roman Catholic Diocese of Birmingham. Completed in 1893 at a cost of \$90,000, the cathedral is widely considered to be a handsome example of the American Neo-Gothic variant of the Gothic Revival style, which the archdiocese was determined not to compromise during this renovation. It measures 96 feet in width by 140 feet in length and encompasses over 60,000 square feet with twin octagonal steeples rising to 183 feet in height.





What Made the Cathedral of St. Paul Project Unique:

We knew from our inspection of the original roof during the quotation process that St. Paul's would be a unique and challenging project. Re-creating the ornate Gothic Revival style to the original exacting detail expected by the archdiocese would require a level of craftsmanship encountered on few projects.

- St. Paul's intricate slate tile patterns incorporated three slate colors and both square and deep bevel cut tiles. The six large slate crosses and multiple accent patterns, barely visible on the faded original roof, required exacting measurements prior to tear-off, and a high level of precision to re-create and maintain over such a large field and on octagonal steeples. Very challenging when compared to the typical single-color, square-edged slate roof project.
- Due to metal thinning brought on by their advanced age, every copper architectural and functional feature in the existing roof system had to be carefully removed and shipped to our South Bend facility to be historically replicated in our metal shop. This included seven ornate crosses (up to 17' tall), finials, turret caps and more- over four dozen components in all, for which no original prints existed, plus over 500 feet each of custom copper cornices and radius gutters with matching straps.
- We were asked to make improvements to the original roof system to improve attic ventilation, while maintaining the Gothic Revival period look. To accomplish this, we integrated bronze screen (invisible from the ground) into the original copper cornice and eave design to provide improved cold air intake, while new louvered copper dormers replaced the original painted roof ventilator.





- An updated lightning protection system was incorporated into the new roof design, “hidden” within many of the new copper crosses and other architectural elements fabricated in our shop in order to maintain the Gothic Revival look.
- Our precision metal shop clad 10 previously-painted windows and mullions in copper, effectively eliminating frequent and costly maintenance. These windows, reachable only by crane at considerable expense, formerly required painting and other maintenance every 5-7 years.
- Lead-coated copper (which patinas to a limestone color) was used to cap all limestone exposed to weather, reducing ongoing maintenance of limestone joints.

Concept to Completion and Additional Challenges:

With approved prints and scaffolding in place, construction began. Extensive termite damage to structural framing required repair prior to installation of the new roofing system. While our sub-contractor, under our supervision, made the necessary repairs, our crew went to work documenting and removing all copper architectural and functional features from the main roof and steeples, sending them back to South Bend to be historically replicated as described earlier. This detailed copper fabrication work continued for the entire duration of the eight month project.

Upon removal of the original slate roof and completion of the structural repairs, the new roof was dried in and installation of the new slate roof began. Brand new, historically-accurate replacements of the original copper architectural features were installed according to schedule.



Fabricating a cross base



Roof tear-off and dry-in



Work schedules on this project were a challenge from the beginning. Our contract stipulated that parishioner and clergy access to the church must be maintained 24 hours a day, seven days a week, throughout the eight-month duration of the project. Further, due to the noise inherent in roof construction, work schedules had to be planned around regular church services and events, and re-scheduled several times a month for funerals and other unscheduled events.

Quality Assurance and Interesting Details- Slate:

- We were required to provide a one square mock-up of a representative roof tile pattern for quality assurance approval prior to any installation on the church roof.
- Six large crosses in two colors were integrated into the main roof design.
- The east and west walls of the cathedral were clad with New York red slate
- The project used standard slates and deep bevel cut slates.
- Mitred hips of the apse made layout of the pattern difficult due to the fact that each segment was a trapezoid and not a triangle.
- All slate on the steeple and apse was hand cut to produce the mitered hip.



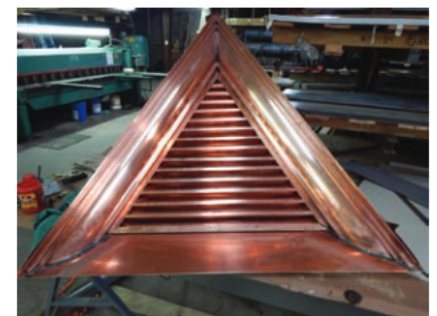
Installing new slate tile





Quality Assurance and Interesting Details- Copper:

- We were required to provide one full-scale mock-up of each type of copper architectural and functional feature for quality assurance approval, prior to fabrication and installation of like components.
- Over 20,000 square feet of 16- and 20-ounce copper was utilized for fabrication of architectural elements and flashing.
- 6,500 square feet of lead-coated copper was utilized to cap all limestone exposed to weather, reducing ongoing maintenance of limestone joints.
- Copper architectural and functional features fabricated in the Midland shop for this project included: 7 ornate copper crosses ranging from 3' - 17' including bases; 16 ornate 5' copper finials; 12 custom copper dormer louvers; 4 copper turret caps; 16 custom copper rainwater collector boxes; 1 (lead-coated) copper chimney cap.
- This project required over 500 feet of custom-fabricated copper cornice.
- Over 500 feet of custom copper radius gutters with expansion joints and matching straps were also fabricated for the project.
- Copper cladding for 10 windows and mullions were fabricated in our shop and installed on-site.





Summary:

At Midland, we've built a nationwide reputation in slate and tile restoration by consistently exceeding customer expectations. According to the Rector at the Cathedral of St. Paul, we've done just that in Birmingham. In his words: "We could not have been more pleased with the work accomplished by the team from Midland Engineering...It is a marvel to us to be able to see the Church in its original glory, and all of this thanks to Midland!"

Project Team:

Roofing Contractor: Midland Engineering Co., Inc.
South Bend, IN

Architect: ArchitectureWorks LLP
Birmingham, AL

General Contractor: Hoar Construction, LLC
Birmingham, AL

Masonry Contractor: Ziolkowski Construction, Inc.
South Bend, IN





The Cathedral of Saint Paul

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October 1, 2015

National Roofing Contractors Association
Gold Circle Award Board

To whom it may concern,

It is my pleasure to recommend Midland Engineering for your prestigious National Roofing Contractors Association Gold Circle Award.

We could not have been more pleased with the work accomplished by the team from Midland Engineering. It was clear from the beginning of our relationship with Midland that this was a special project for them. Even though they had such a vast array of projects under their belt, the uniqueness of this opportunity for them was evident by the constant care and reverence with which they approached the restoration of our church exterior. It was also evident in the joy and excitement that they shared with us each time a new piece of the work was coming to fruition.

Their team did an outstanding job of keeping our property as neat, presentable, and safe as possible, even in the midst of such a massive scope of work. Not only was the property completely safe throughout the duration of the work, there was never a time when people had to approach the church through major disarray or grime. It was clear that the team was most vigilant to this crucial detail. And the parishioners were always so happy to see the workers, and they all told me how kind and respectful all of the workers were to them as they came to various activities throughout the day.

I have told everyone that God gave us the best team possible under the best direction possible. It is my estimation that we could not have had a better on-site team leader than Lyle Bandurski. Lyle kept the project moving efficiently and professionally. If there was a minute to spare, work was being accomplished. We never had to worry that time was being wasted. From the first moments after our morning Mass until late afternoon, progress was being made.

It was a joy for me each day to move about the scaffolding to see the good work they were accomplishing. I took countless pictures of the slate going in to place because I could not believe that anyone could make such straight lines out of pieces of rock! And the precision of the replication of the original copper crosses and finials is nothing short of magnificent!

The team's work in piecing together such an intricate weave of slate and copper to restore our church's beauty and keep it safe from water was such a marvel to behold. And now our parishioners and our city can see the roof of this church and all of the copper appointments in the same way as it was seen in 1893. It is a marvel to us to be able to see the Church in its original glory, and all of this thanks to Midland Engineering!

Sincerely,

Very Reverend Kevin M. Bazzel, V.G., J.C.L.
Rector

January 22, 2015

Re: Midland Engineering
Cathedral of Saint Paul
Birmingham, Alabama
Exterior Restoration and Roof Replacement

To Whom It May Concern:

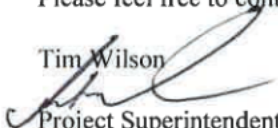
It is with great pleasure that I submit this letter of recommendation in behalf of Midland Engineering Company. Our firm was fortunate to have them on our team for the restoration of The Cathedral of Saint Paul, which is located in the heart of downtown Birmingham Alabama. The Cathedral, built in 1893, is a stunning example of Victorian Gothic Architecture and it is a treasured landmark in the Birmingham community. One of the many challenges associated with renovating a historic landmark is finding team members that view the project as more than just another project. Rather, to be successful with a project of this nature, you need partners that understand and appreciate the significance of the structure, and share the same respect and love for the building as do the parishioners and staff . I am pleased to say that Midland Engineering fits this description perfectly. It was apparent to all involved from the onset of the project that Midland's staff was committed to excellence, and genuinely cared about the needs and concerns of those who worship and serve within the walls of this magnificent building on a daily basis. Speaking as a General Contractor, the value of this type of partner cannot be quantified. Furthermore, I am confident, that if asked, the architect, minister, parishioners, and many others associated with this project would share my same view.

In addition to their understanding and respect of the building and what it represents, Midland's commitments to quality, safety, schedule, and overall success of the project were unparalleled. As the project progressed, the experience, knowledge and proactive attitude of Midland's team proved to be an invaluable asset to our firm, as well as to the architectural design team. Day to day issues that were encountered in the field were easily resolved with either a quick chat with their onsite supervision, or a phone call to their project management team. In my 25 years of experience in the construction industry, I have found it to be very rare that an architect will respond to field related issues and questions with "*what does your sub think we should do?*" To me, this type of response is confirmation that the design team had absolute trust that Midland would provide solutions that were to the benefit of the overall success of the project, not just simply suggest solutions that were only in the best interests of Midland.

In summary, my positive experience with Midland Engineering was second to none. Although my time with their group is limited to one project, I feel confident sharing my highest recommendation to anyone that may be interested in their services. Typically I would be hesitant with sharing such high praise for an organization with which I have had such limited experience. However, in this case, I have no doubts that their performance on our project was a reflection of an overall culture within their organization that will not settle for average.

Please feel free to contact me should you have any questions.

Tim Wilson



Project Superintendent
Hoar Construction
205/545-6193

Photo Gallery - Slate



Photo Gallery - Slate



Photo Gallery - Copper Clad Windows



Photo Gallery - Attic Ventilation



Photo Gallery - Capped Limestone



Photo Gallery - Lightning Protection



Photo Gallery - Copper Fabrication

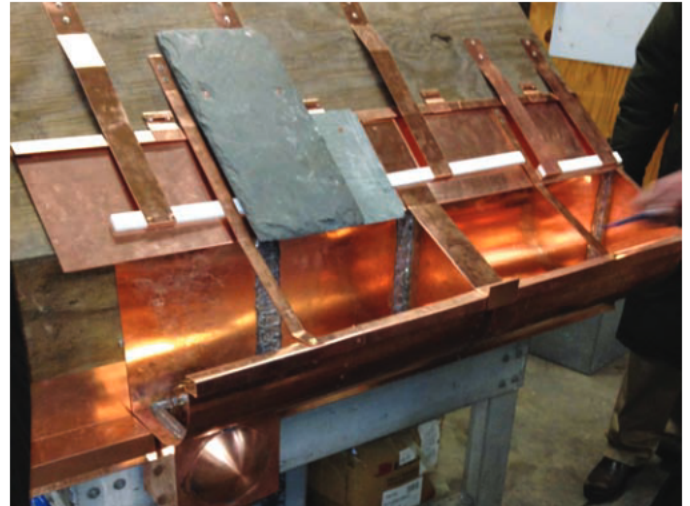


Photo Gallery - Copper Fabrication



Photo Gallery - Copper Fabrication

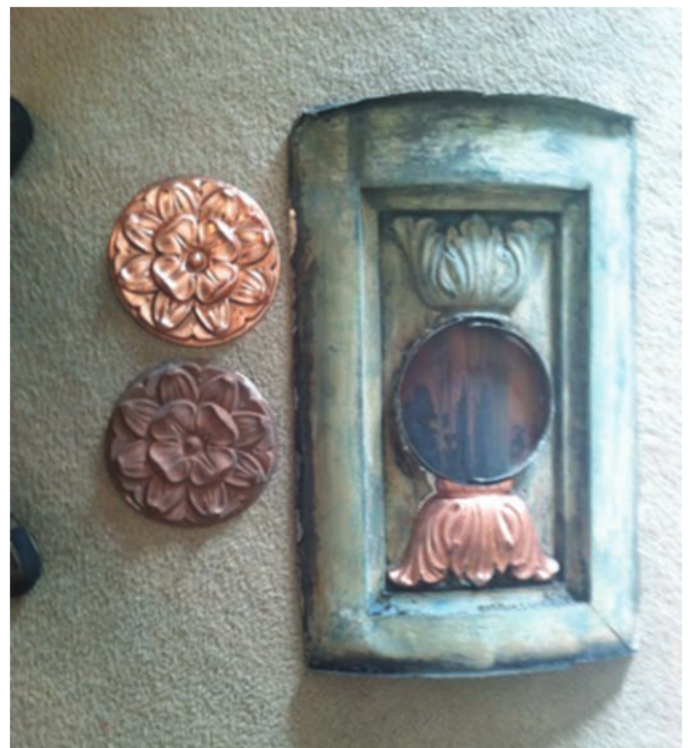


Photo Gallery - Copper Fabrication

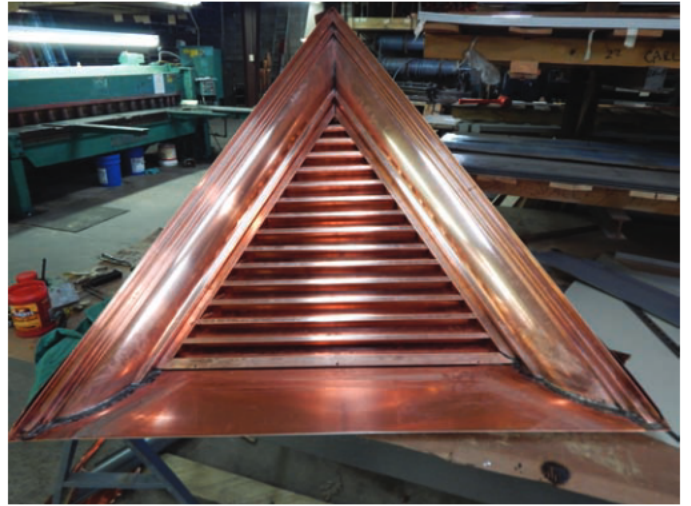


Photo Gallery - Miscellaneous

