FEATURED PROJECTS

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Northwest Concrete Masonry Association, helping put concrete masonry to work for you.
The award-winning Holy Innocents Church in Duvall, Washington has an unusual and spectacular setting. Perched above a green floodplain with a stunning view of Mt. Baker from the pews, the clergy, staff and parishioners truly feel like the gospel they teach is reaching out into the greater natural world.

Recipient of both the Masonry Institute of Washington’s 2006 Honor Award, and the 2007 Mason Contractor’s Association of America’s International Excellence in Masonry Award, Holy Innocents is drawing accolades for its unique contemporary design by Bob Becker, AIA of Becker Architects in Kirkland, Washington.

Becker chose to work with CMU in his building design because of its permanent appearance. “The masonry was an economical solution—with ground-face CMU block, we were able to achieve the look of stone both inside and out, with minimal maintenance.” Eastside Masonry Products manufactured buff color ground-face masonry units for the majority of the project. Contrasting bands of block in mesa tan were used horizontally at four foot centers to break down the scale of the high walls.

The masonry system for the church is designed as a grouted and reinforced single-wythe bearing wall. The block are integrally insulated with Korfil® foam inserts allowing the exterior walls to be exposed on both sides.

Interior walls of durable ground-face CMU are left exposed throughout the public areas of the church, with a simple but elegant polished concrete floor complementing the texture of the block. Glue lam beams in a natural stain provide a warmth and contrast of color to the stone-like CMU.

According to Jim Ward, Jr. of Wards’ Masonry, the project required approximately 22,000 12” and 8” block. “It had some interesting challenges – the sloping roof for one,” said Ward of the building, “but we figured those out in the field, and it turned out beautifully.” The curved roof is a design feature Becker used to emulate the rolling hills surrounding the site.

“The parish wanted to keep the design simple, with an emphasis on service and the relationship with the outside world,” said Becker.

Gail Dimock, Pastoral Associate with Holy Innocents, said that this structure is phase one of a multi-building plan that will include classroom space, a commercial kitchen and a central “piazza” or courtyard. “We love our new building,” commented Dimock. “People comment on all of the natural light and its simple but dramatic design.” As one of the parish priest’s commented, “the church is a homily in itself.”

Holy Innocents Church

DUVALL, WA

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CREDITS

OWNER Holy Innocents Parish, Duvall, WA
ARCHITECT Becker Architects, Kirkland, WA
STRUCTURAL ENGINEER Charles Redfield, Mill Valley, CA
GENERAL CONTRACTOR Kirtley-Cole Associates, Everett, WA
Concrete masonry was the building material of choice for Umatilla County’s new government center. A fire had destroyed the local circuit court building and county officials wanted a durable, secure, and attractive structure with a 75-year life span for its replacement. With its high fire rating and bullet-proof walls, CMU was the answer.

The Stafford Hansell Government Center is home not only to two new circuit court rooms and court offices, but also houses public meeting areas, community corrections, and offices for the sheriff, county commissioners, assessor, taxation and planning departments.

Sargent Architects of Hermiston was selected to design the $3.9 million, 25,000 square foot building. Project Architect Ned Luthy, AIA, said CMU was chosen as the structural material because “masonry is the natural choice for a 75-year building – it allows for a durable, substantial facility” at a reasonable cost per square foot. “Masonry is an excellent product for public buildings,” added Principle in Charge, Gail Sargent, AIA. “It is an economical, beautiful, cost-efficient solution.”

Luthy is also impressed with the design flexibility of CMU. “Our brains naturally go to masonry solutions… exciting, fresh new looks are possible with masonry. It is customizable – with very nice results.” This versatility allowed Sargent Architects to incorporate an aesthetically pleasing curved wall into the Center’s design, breaking up the look of the usual two-story box for government buildings. The rounded “movement” of the wall and its attractive band of lighter-color block, is carried into the building’s interior, with a continuation of the light stripe throughout a grand entryway with a sweeping curved stairway.

Mason contractor Dan Aden of Aden Masonry in Pasco, Washington said that 40,000 8 x 8 x 16 CMU produced by Western Materials Co. were used in the building, which was designed around the dimensions of the block, making the construction process much faster. “This building was unique in the use of lots of ground-face with a nice mix of precast,” said Aden. Added Structural Engineer Anthony Cockbain of Meier Enterprises, “the lesson I learned is how well concrete masonry and precast work together. The mix creates visual interest.”

Dedicated in April of 2006 after nine years of planning, the building was named in honor of the late Hermiston lawmaker, Stafford Hansell. Umatilla County will memorialize Hansell for many years to come, as the entire community uses and appreciates this new facility.
The fully-equipped, state of the art $4.8 million plumbing and pipe-fitting training facility for the United Association of Plumbers and Pipefitters Local 26 had to be constructed of a long-lasting and economical material. With 16 full-equipped welding booths, a durable structure with a high fire rating was also important. Concrete masonry met these functional requirements while providing an attractive appearance.

Peter Carletti, AIA, of Carletti Architects was principal in charge for the Training Center. “The client wanted a building with a sense of permanence that would be low maintenance. I suggested they go with concrete masonry rather than tilt-up concrete. The textures, colors and warmth of this building provide visual testimony to what CMU can do and what tilt-up cannot. It is a one building sales pitch for masonry,” said Carletti.

Carletti enjoyed adding extra creative touches like stainless steel downspouts to the lines of the building. A central courtyard area with a fountain of three stone slabs—symbolizes the three distinct “pods” of the Center that empty into the exterior gathering area. In addition to the shop demonstration area, the roughly 29,000 square foot building includes interactive classrooms for demonstrations, computer aided drafting classrooms, a boiler training room, a seminar/banquet meeting hall, and administrative offices.

Split-face, ground-face and scored block in earth-toned and sandstone colors were produced by Mutual Ma-

terials Co. for the structural CMU walls. Two shades of split-face block were selected for the building. The darker units were used for the outside perimeter walls while a slightly lighter color on the exterior courtyard walls creates a subtle warmth.

Training facility walls must withstand day-to-day abuse. According to Don Kenney, president and owner of R & D Masonry, mason contractor for the project, “the durability of masonry was key—they’re doing a lot of welding there—the CMU allows them to do that work without worrying about damage.”

Completed in March of 2006, construction of the Training Center took about seven months, said Adam Wilson, project manager for general contractor, Lydig Construction. “The building turned out beautifully,” added Wilson.

Northwest Washington Pipe Trades Training Center

The textures, colors and warmth of this building provide visual testimony to what CMU can do and what tilt-up cannot"
Sustainable. Casual. Colorful. Secure. Each of these words aptly describe one-year-old Rose Hill Elementary School in Kirkland, Washington. A fun and functional building—the school sports a black and white band of glazed-face CMU inside and out in homage to mascot of 50 years, Rocky the Raccoon.

In the design process, Lake Washington School District gave Rose Hill community members, parents and staff the opportunity to come up with “wish lists” for the building that would replace an aging 1950’s-era elementary school. According to Noah Greenberg, Project Architect with DLR Group Seattle, “they didn’t want a monument on a large scale that might seem intimidating to students.” Added Craig Mason, AIA, Design Architect and Principal in Charge with DLR Group, “there was a desire for the building to fit into the surrounding residential neighborhood.

Both Greenberg and Mason agreed that the use of CMU as a building material was “a practical as well as a poetic decision.” It was an affordable way to achieve a sense of permanence while breaking down the scale of the structure and allowing for a variety of colors and textures.

Approximately 70,000 block—smooth-face in rose brown, split and ground-face in charcoal, and glazed-face in black and white, were produced for the school. Designers used the block in creative touches like vertical soldier courses in charcoal over windows, bull-nose interior corners, and in transitions from split to ground-face block. “This was a challenging project that turned our really well—the mottled look of the variations in the smooth-face block give the exterior walls a lot of texture,” said Phil Evans of R&D Masonry. The load-bearing masonry walls for the three story building (exterior and interior) were constructed in a rapid four months.

Noncombustible CMU solved the challenge of the site’s low water pressure for fire flow—the use of exterior masonry walls reduced the number of fire walls required. Another benefit of using grouted CMU, it’s thermal mass, resulted in huge energy savings for the district. No cooling system is necessary for the building since the massive masonry walls keep it cool during warm days, and store excess heat during the winter months. Furnaces were used only 10–20% of the time during the first year of Rose Hill’s operation.

Roberto Zamora, Construction Project Manager for Lake Washington District is extremely pleased with the performance of the CMU. “The CMU was a very wise choice of materials because it functions in a number of different capacities—in the structure, exterior finish, interior finish, and in its energy efficiency.”

**CREDITS**

**OWNER** Lake Washington School District, Redmond, WA  
**ARCHITECT** DLR Group, Seattle, WA  
**STRUCTURAL ENGINEER** DLR Group, Seattle, WA  
**GENERAL CONTRACTOR** John Korsmo Construction, Tacoma, WA
Concrete Masonry Radial Walls

The use of concrete masonry in the construction of radial walls offers design flexibility. Radial walls of concrete masonry are usually formed from rectangular units of fixed shape and dimension. The end result is a series of short chords rather than a smooth arc. Unit corners will project to some degree. Typically projections of 1/8” to 1/4” are considered acceptable. The greater the radius, the more closely the surface formed by the chords approaches that of a true arc.

The curvature of these walls depends on variables such as the length and thickness of the concrete masonry unit, the width of the vertical head joints at the interior and exterior wall faces and whether the units will be used as is, or cut to conform to the desired radius. Below are tables for the radii that can be achieved by just varying the thickness of the exterior head joints (1/8 in. interior joint) without cutting the end of the units.

### Table 1 – Minimum Radii (ft.): 8 in. Long Units (Uncut)

<table>
<thead>
<tr>
<th>Nominal unit width, in.</th>
<th>7/8 in. Ext. mortar joint</th>
<th>1/2 in. Ext. mortar joint</th>
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</thead>
<tbody>
<tr>
<td>4</td>
<td>9.75</td>
<td>1/16</td>
</tr>
<tr>
<td>6</td>
<td>15.08</td>
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<td>10</td>
<td>25.67</td>
<td>1/16</td>
</tr>
<tr>
<td>12</td>
<td>31.08</td>
<td>1/16</td>
</tr>
</tbody>
</table>

### Table 2 – Minimum Radii (ft.): 16 in. Long Units (Uncut)

<table>
<thead>
<tr>
<th>Nominal unit width, in.</th>
<th>7/8 in. Ext. mortar joint</th>
<th>1/2 in. Ext. mortar joint</th>
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</thead>
<tbody>
<tr>
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<td>19.30</td>
<td>1 1/8</td>
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<tr>
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<td>30.17</td>
<td>3/32</td>
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<tr>
<td>8</td>
<td>40.75</td>
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<td>1 1/16</td>
</tr>
<tr>
<td>12</td>
<td>62.17</td>
<td>1 1/16</td>
</tr>
</tbody>
</table>

*Unit corner projections (running bond)*

### Producer Members

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Northwest Concrete Masonry Association
19109 36th Avenue West, Suite 211, Lynnwood, WA 98036
425.697.5298 • www.nwcma.org

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