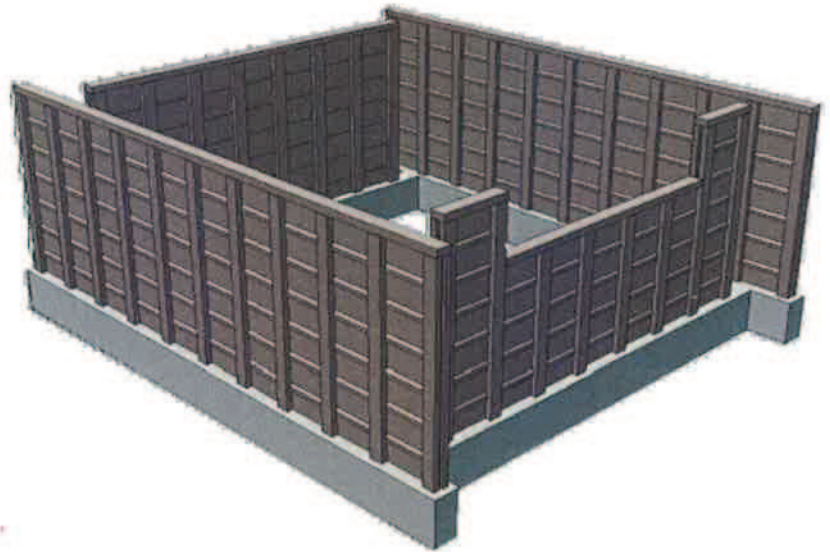


Vassell Station Project

Synopsis: In the wake of an attack on an electrical substation south of San Jose, California, groups are urging congress to provide better security around these sites. The attacked site endured 150 rounds from an assault rifle, knocking out 17 transformers.

Knife River's Prestress Division (Harrisburg, OR.) teamed up with High Impact Technologies (Salem, OR) to provide a unique barrier system to suit the needs of the of these facilities.

Plan: A collaborative effort yielded a plan to provide universal precast components that can be easily installed at a site. These components can be removed and reassembled to facilitate future maintenance on equipment. The components are designed with interchangeability to reduce complexity on the project.

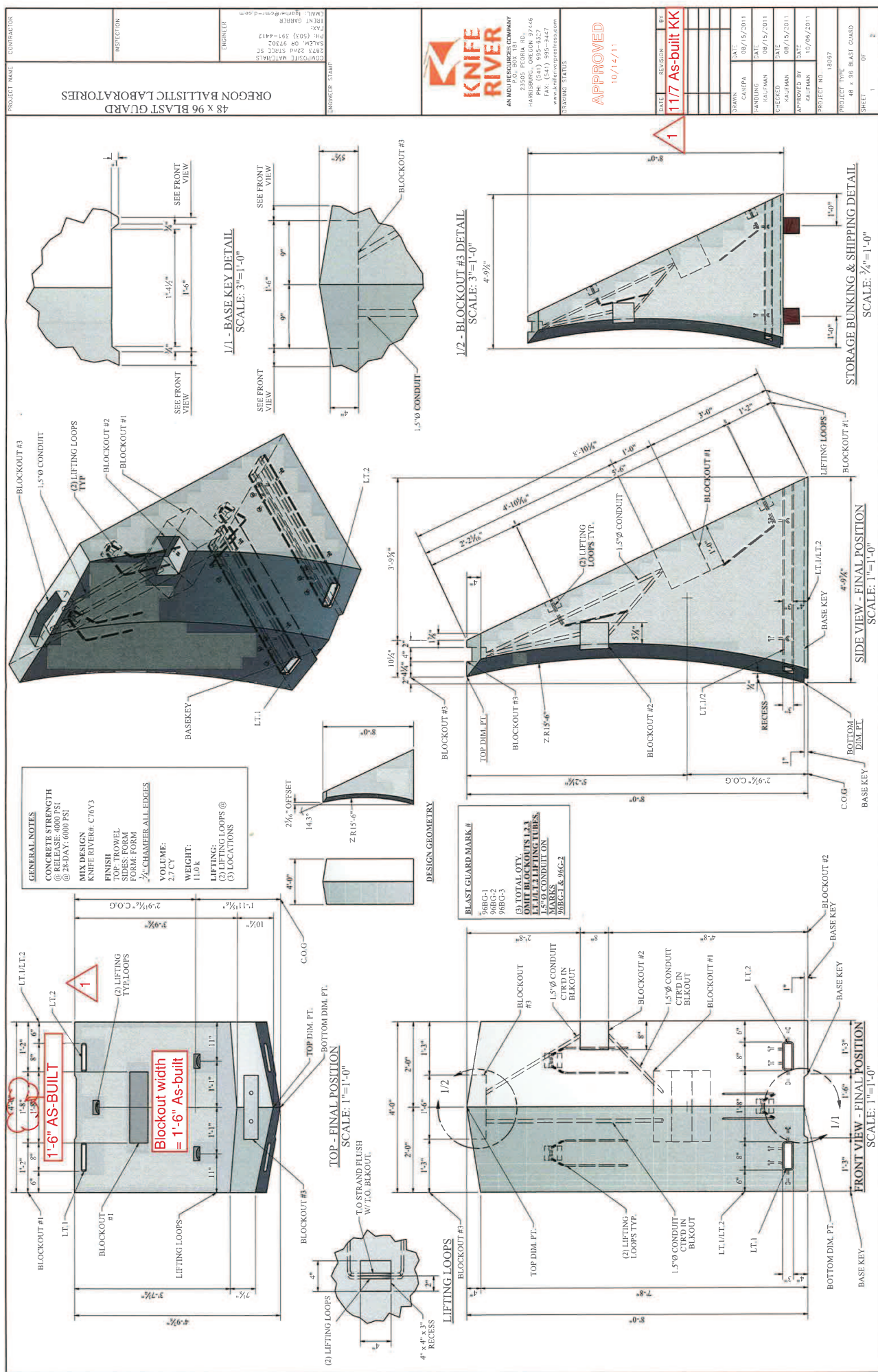


The system must be able to withstand a level 8 ballistic test. This consists of shooting (5) 30 caliber bullets in a 4 ½" square area at 15 feet without passing through the structure. Through the R & D process, we developed a 4" thick concrete panel that is coated with HIT's patented ballistic coating and a separate fire coating that easily meets the requirements. Knife River's precast panels use high density mix augmented with glass fibers. Also, conventional rebar was replaced with glass fiber rebar to reduce the grounding requirements of the structure. The system passed the requirements for an E119 2-hour fire test.

Execution: Knife River Prestress cast (742) walls, (119) columns and (59) cap beams in the Harrisburg precast facility. Those components were coated by the HIT team in the same facility. Once completed, the components were shipped to the Vassell Station project in Sunbury, Ohio.

For more information, please contact Loren Later or Dusty Andrews at (541) 995-4100.







KNIFE RIVER®

AN MDU RESOURCES COMPANY

Railroad Division



Knife River delivers quality. All day, every day.

We will be there when you need us. Our equipment and teams are ready to mobilize 24 hours a day. Whether it's emergency work or planned construction, we have the people and the resources to get the job done right, and right now.

We also specialize in producing and delivering ballast and precast concrete bridges for the railroad industry, from Class 1 to short lines.

Please contact us anytime to see how we can help.

**24-
HOUR
EMERGENCY
SERVICES**
503-764-6435



CONSTRUCTION

4



PRECAST BRIDGES

5



EMERGENCY SERVICES

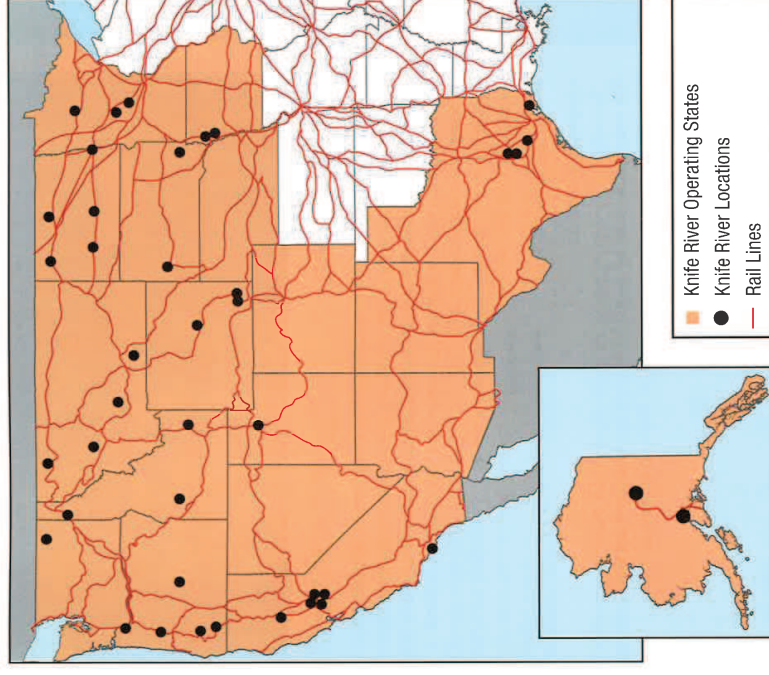
6



BALLAST

7

Knife River Locations



A Strong Network

Knife River operates in 19 states, with several divisions located along major rail lines. That strategic positioning, along with our complete menu of construction capabilities, makes our network a good complement to yours. We can respond to your needs quickly.

And at all of our locations, our No. 1 commitment is to operate safely for the well-being of our team and yours. Knife River is a safety leader in our industry. We're dedicated to doing the job right, doing the job safely and delivering on our promises.



Construction

Knife River is a full-service heavy civil contractor experienced in both Class I and short-line construction. With operations across the central and western United States, we offer the market knowledge and expertise of a local contractor, along with the financial and equipment resources of a national company. We specialize in:

- Earthwork
- Utilities
- Sand and Gravel Supply
- Highway Crossings
- Culverts
- Paving
- Roadway Maintenance

Our experienced team of operators, laborers and managers will work with you to meet your construction needs safely, on time and on budget.

Contact



Amanda Bewley
541-954-3023
Amanda.Bewley@KnifeRiver.com



Prestress/Precast

Our award-winning precasters have been designing, building and delivering bridge components for nearly 60 years. They are obsessive about quality and are committed to providing excellent customer service.

Our experienced engineering and sales staff is always available to provide technical guidance throughout the construction process. Our team will help you evaluate the most efficient, durable and cost-effective solution for your bridge needs. We'll handle all the details and deliver you a high-quality finished product.

Long-span or short, day or night, our team will get the job done right and on time.



Contact



Jordan Pelphey
541-321-3458
Jordan.Pelphey@KnifeRiver.com

Bridge Products

- Double-Cell Box Beams
- Single-Cell Box Beams
- I & T Beams
- Solid & Voided-Slab Beams
- Double-Stem AASHTO Beams
- Precast Segmental Tubes
- Precast Segmental I & T Beams
- Precast Concrete Abutments, Pile Caps, Wing Walls, Riser Blocks, End Panels and Cross Beams



Emergency Services

We're ready to go and we never say no.

We understand that quick response to an emergency is critical. We have the fleet and the operational network to mobilize to an emergency site on a minute's notice, and we have the experienced team to do the work safely.

One call to Knife River gets you a contractor you can count on when you need it most. We'll build access roads to the site, haul material in or out, provide environmental remediation — whatever you need to get back up and running.

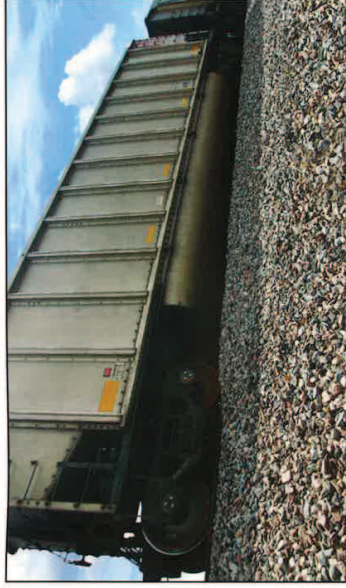
Contact



Brodie Harvey
543-764-6435
Brodie.Harvey@KnifeRiver.com

**24-
HOUR
EMERGENCY
SERVICES**

503-764-6435



Railroad Ballast

Knife River produces, crushes and delivers more aggregates than almost any company in the country. With operations spread across 15 states, we are well-positioned to deliver high-quality railroad ballast for main lines and rail yards.

We produce our ballast from granite, trap rock, quartzite, dolomite or limestone, in accordance with AREMA gradation specifications. And with over 1 billion tons of aggregate reserves, we have enough material for just about any size job.

In addition to producing rock at our network of quarries and plants, we operate portable crushing equipment that can be shipped by rail to support construction in remote locations.

Contact



Steve Mote
541-968-1885
Steve.Mote@KnifeRiver.com

Gradation #s

24
25
3
4A
4
5
57

Mission Statement

Knife River's Railroad Division helps our customers build a strong and sustainable North American rail system by safely providing:

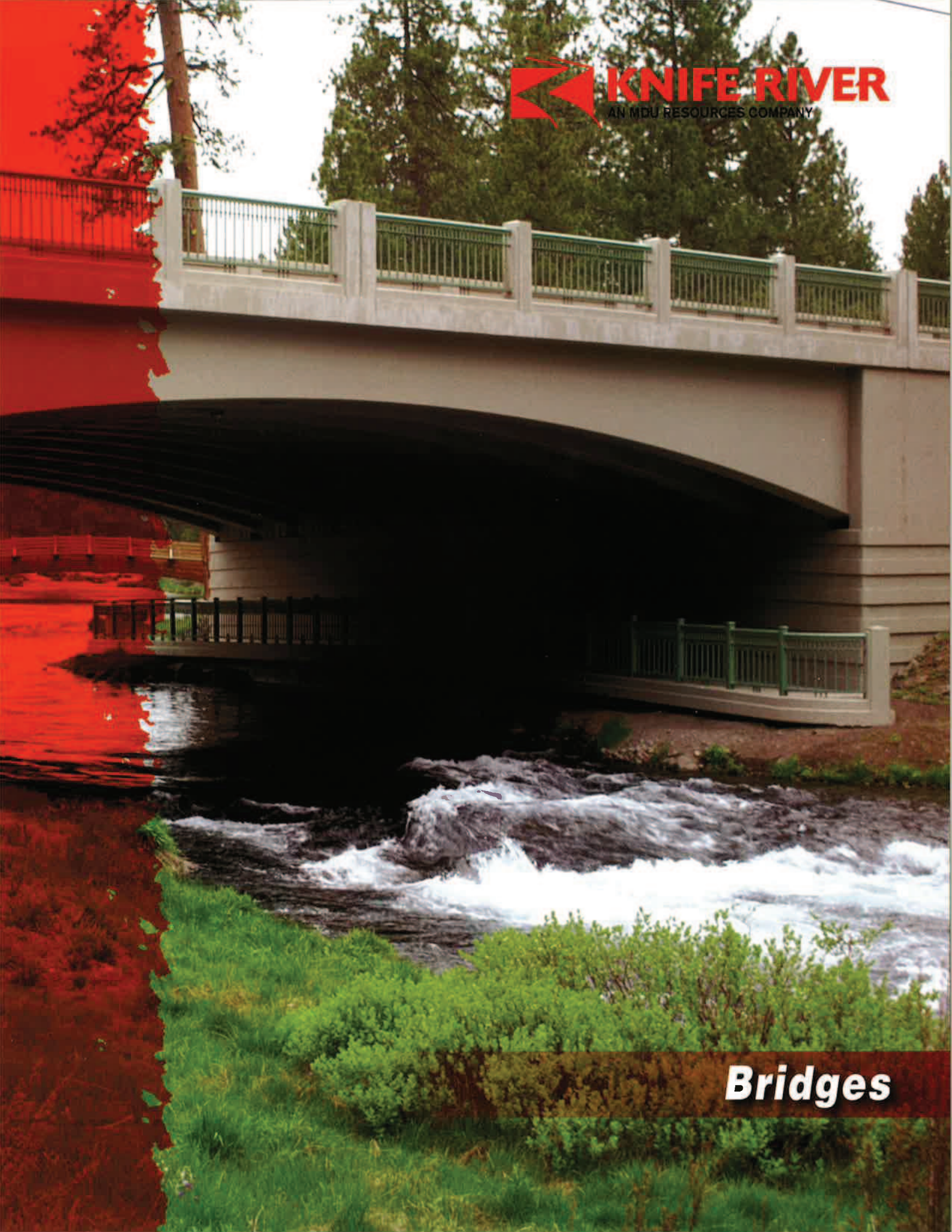
- Heavy Civil Construction
- Maintenance of Way
- Precast and Prestressed Concrete Products
- Emergency Services
- Aggregates (including Ballast Rock)

We deliver quality products and services from our strategically located network of operations. We are committed to the safety of our team members and customers. We comply with all environmental regulations, and we are dedicated to providing excellent customer service.





KNIFE RIVER
AN MDU RESOURCES COMPANY



Bridges

Knife River Prestress is owned by Knife River Corporation, one of the Top 10 Aggregate Producers in America and one of only three companies in that distinction that remains U.S.-owned and operated.

Knife River Corporation purchased Morse Bros. Prestress, along with the rest of Morse Bros., Inc., in the late 1990's. This acquisition was a natural business transition following tremendous successes on the part of both companies. Combined, Knife River Prestress can offer the enhanced services of Knife River Corporation while continuing to provide customers with local, personalized solutions for their construction materials needs.

Today, our parent company, Knife River Corporation, allows us to tap into the collective expertise of more than 60 companies nationwide, operating in 17 states in the central, western and southern United States, and in Alaska and Hawaii. Knife River Prestress primary facility is located in Harrisburg, Oregon.

We are an award-winning leader in the industry, offering a wide variety of precast/prestressed concrete components for long and short-span highway and rail bridges. We also provide precast architectural and structural products for parking structures, commercial buildings, warehouses, manufacturing plants, multi-unit housing, educational facilities, offices, high-tech, and athletic facilities. Over the years we have built a local and national reputation as one of Oregon's leading providers of quality aggregate-based products.

Our professional, experienced staff can evaluate your specific project and provide suggestions and recommendations for the most attractive, durable, and cost-effective products possible.

We are proud of our history and the values of quality and customer service our founders wove into the fabric of our culture. Be assured that these fundamental values live on and are a part of every product we produce.

Feel free to drop by and take a look for yourself; the door is always open. For more information please visit our web site at www.kniferiverprestress.com

Bridges

Benefits Of Using Precast/Prestressed Concrete

There are many structural systems available today. None offer the cost-saving advantages of precast/prestressed concrete components.

Versatility, Quality, Economy

The versatility of a precast concrete system is unmatched. Many components of a bridge can be precast to precise specifications. Plant manufacturing results in substantial economies through repetitive manufacturing and stringent quality control.

Speed of Construction

Precast and prestressed concrete components are manufactured at the plant and away from site preparation and foundation work, which reduces project congestion and disturbance. Products are shipped to the site as needed and can be erected directly from the delivery truck, greatly reducing time, labor and weather delays.

Attractive Appearance

The simple, clean shapes of precast components project an image of strength and beauty combined. Special or modified forms can be developed for unique applications.

Fire Resistance

Precast and prestressed concrete's unique fire resistance protects both life and property.

Structural Efficiency and Environmentally Friendly

Precast and prestressed concrete components are dense materials that provide both excellent sound attenuation and are thermally stable. The thermal mass delays internal temperature changes. This attribute has resulted in prime bat habitat. Superstructures can be kept shallow to provide maximum clearance and span lengths maximized to avoid sensitive environmental areas.

Durability

Precast and prestressed concrete is exceptionally resistant to impact, corrosion, weathering, abrasion and vandalism, making it virtually maintenance free.

Longer Economic Life

Precast and prestressed concrete structures give added years of service with a minimum of repairs and maintenance.



www.kniferiverprestress.com | 1-800-452-6301

Bridges

using precast prestressed concrete continue to be the material of choice for structures in the Northwest. Knife River (formerly Morse Bros.) began precast operations in the early 1950's in response to the transportation demand to construct the nation's interstate and infrastructure system after World War II. During the late 1990's and early 2000's, Knife River has responded to the bridge replacement program initiated in Oregon's Transportation Investment Act. Knife River will continue to produce precast concrete for the future demands of the Northwest.

Knife River offers the greatest variety of precast bridge products in the nation to meet the requirements of public and private owners. Precast slabs, box beams, decked bulb tees, bulb I's, and bulb tees can achieve simple spans up to 184 feet. Basic modifications to our standard forms or special forms in the shape of a bulb I or trapezoidal tub are used in segmental spliced girder construction to produce continuous spans that can exceed 250 feet.

Knife River is also unique in that we own and operate our shipping equipment. This equipment is state-of-the-art and can ship weights reaching 220,000 lbs. Our relationships with other local carriers ensure that projects are delivered on time. Our drivers understand our products and can review sites for access as part of our professional service.

Knife River takes great pride in our professional support of our products. Our staff engineers establish and maintain relationships with design engineers and contractors to provide a structural system to meet and exceed the expectations of the owner. Our professional commitment to the local and national industry ensures our product meets current codes and specifications.

Contact the professionals at Knife River Prestress for all of your precast bridge construction needs.





KNIFE RIVER

AN MDU RESOURCES COMPANY



23505 Peoria Road / PO Box 181 | Harrisburg, Oregon 97446

Phone: 541-995-6327

www.kniferiverprestress.com

Educational Facilities

Knife River Prestress is owned by Knife River Corporation, one of the Top 10 Aggregate Producers in America and one of only three companies in that distinction that remains U.S.-owned and operated.

Knife River Corporation purchased Morse Bros. Prestress, along with the rest of Morse Bros., Inc., in the late 1990's. This acquisition was a natural business transition following tremendous successes on the part of both companies. Combined, Knife River Prestress can offer the enhanced services of Knife River Corporation while continuing to provide customers with local, personalized solutions for their construction materials needs.

Today, our parent company, Knife River Corporation, allows us to tap into the collective expertise of more than 60 companies nationwide, operating in 17 states in the central, western and southern United States, and in Alaska and Hawaii. Knife River Precast's primary facility is located in Harrisburg, Oregon.

We are an award-winning leader in the industry, offering a wide variety of precast/prestressed concrete components for long and short-span highway and rail bridges. We also provide precast architectural and structural products for parking structures, commercial buildings, warehouses, manufacturing plants, multi-unit housing, educational facilities, offices, high-tech and athletic facilities. Over the years we have built a local and national reputation as one of Oregon's leading providers of quality aggregate-based products.

Our professional, experienced staff can evaluate your specific project and provide suggestions and recommendations for the most attractive, durable and cost-effective products possible.

We are proud of our history and the values of quality and customer service our founders wove into the fabric of our culture. Be assured that these fundamental values live on and are a part of every product we produce.

Feel free to drop by and take a look for yourself, the door is always open. For more information please visit our web site at www.kniferiverprestress.com

Schools

Today are complex institutions that serve students and the entire community. They incorporate classrooms, auditoriums, workshops, gymnasiums, pools, and technical/media rooms.

Schools depend on their physical buildings to feel secure, remain durable and be conducive to learning. Fluctuations in student population, changes in educational needs, and technological innovations all require flexibility for quick, affordable modifications. Precast/prestressed concrete systems combine flexibility and durability with aesthetic variety and the inherent properties of precast concrete make it a very sustainable choice for a building product.

In addition to durability and aesthetics, precast/prestressed wall systems offer environmental benefits ranging from erection speed and reduced job site disruption to energy savings and use of recycled materials. The ability to build with relatively long spans of concrete at reduced structural depth and weight also allows for enhanced flexibility when reconfiguring classrooms or building gyms and pools. This translates into significant savings by decreasing height requirements and reducing heating and cooling costs. Precast/prestressed concrete offers additional advantages over other building materials, including extremely low maintenance, high moisture resistance and low noise transmission.

Educational facilities designed with precast insulated wall systems offer the best overall product possible. The improved insulating properties of insulated wall panels lead to more energy efficient buildings with lower operating costs. Improving the R-value of a wall system can help achieve nearly 40% of the core credits required for basic LEED certification. Using a total precast system, owners experience unprecedented cost savings, superior product quality, and longer life-cycles.

School districts appreciate the surprisingly low initial costs and the impressive life-cycle benefits of precast/prestressed concrete. Its low thermal conductivity saves energy; its outstanding fire resistance saves lives and reduces insurance premiums; and its phenomenal strength and durability make it highly resistant to damage.

Educational Facilities

Benefits Of Using Precast/Prestress Concrete

There are many building and structural systems on the market today. None offer the cost-saving advantages of precast/prestressed concrete components.

Versatility, Quality, Economy

The versatility of a precast concrete system is unmatched. The components of an entire facility can be precast to precise specifications. Plant manufacturing results in substantial economies through repetitive manufacturing and stringent quality control.

Speed of Construction

Precast and prestressed concrete components are manufactured at the plant and away from site preparation and foundation work, which reduces project congestion and disturbance. Products are shipped to the site as needed and can be erected directly from the delivery truck, greatly reducing time, labor and weather delays.

Attractive Appearance

The pattern, texture, and color variations of architectural precast and prestressed concrete are practically unlimited. The simple, clean shapes of these components project an image of strength and beauty combined.

Fire Resistance

Precast and prestressed concrete's unique fire resistance protects both life and property while reducing insurance rates.

Low Noise Transmission + Energy Conservation

Precast and prestressed concrete components are dense materials that provide both excellent sound attenuation and energy savings. Precast construction allows minimal air infiltration – the thermal mass delays internal temperature changes and reduces peak heating and cooling loads. Sculptured shapes facilitate shading for window areas. In addition, insulation can be cast-in during manufacturing, which increases the U-factor.

Durability

Precast and prestressed concrete is exceptionally resistant to impact, corrosion, weathering, abrasion and vandalism, making it virtually maintenance free.

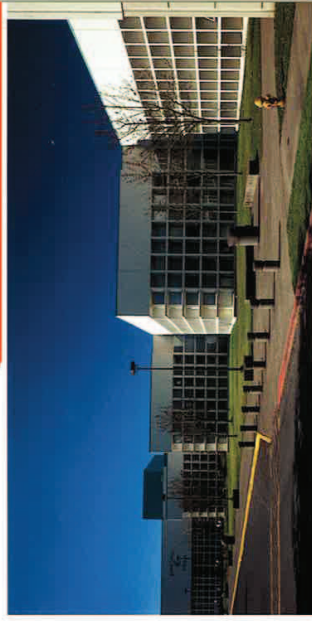
Cost Effectiveness

Fabrication occurs year-round, regardless of weather and events at the construction site. Work can begin as soon as designs are completed. In a precast/prestressed concrete building, floor-to-floor height is appreciably less, thus reducing the building height and volume and reducing heating and cooling costs. In bridges, superstructures can be kept more shallow to better provide maximum clearance and minimum approach grades.

Longer Economic Life

Precast and prestressed concrete structures give added years of service with a minimum of repairs and maintenance.

www.kniferiverprestress.com | 1-800-452-6301





KNIFE RIVER

AN MDU RESOURCES COMPANY

School buildings reflect a community's investment in education. Buildings made with precast/prestressed concrete look great, last for decades, require minimal maintenance, and save money.

Precast/prestressed concrete is a highly adaptive and easily erected material that responds well to site needs. In addition, facilities built with precast/prestressed concrete can be erected faster than those built with other materials.

Precast/prestressed concrete, produced in controlled factory conditions and erected under stringent quality controls, ensures that a school building is durable and corrosion-resistant.

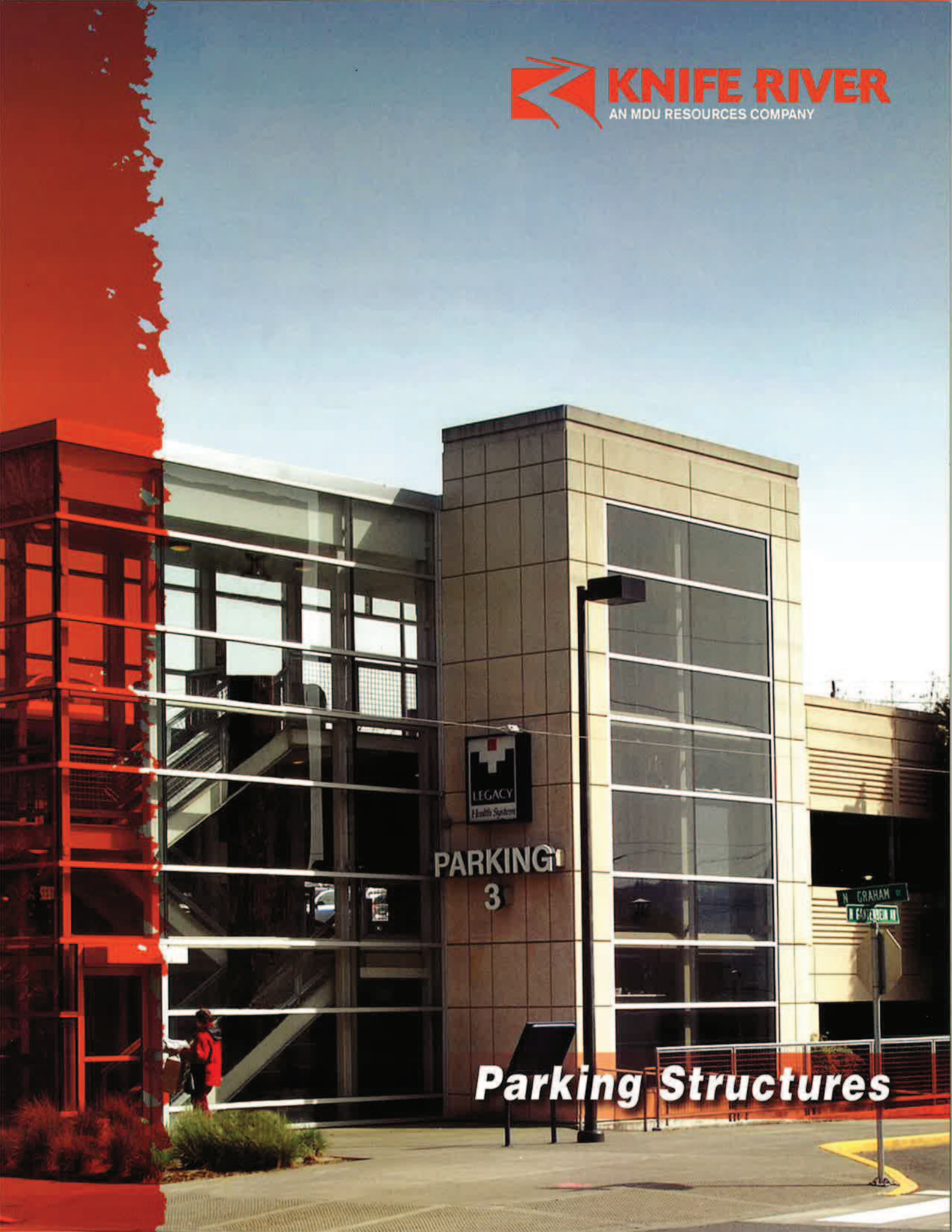
Recognizing the economy and adaptability of precast/prestressed concrete structures, increasing numbers of architects, engineers and school districts are choosing our product as the material of choice when building educational facilities. In addition, taxpayers tend to support projects constructed with economical and quickly built precast/prestressed concrete.



23505 Peoria Road / PO Box 181 | Harrisburg, Oregon 97446

Phone: 541-995-6327

www.kniferriverprestress.com



PARKING
3

Parking Structures

Knife River Prestress is owned by Knife River Corporation, one of the Top 10 Aggregate Producers in America and one of only three companies in that distinction that remains U.S.-owned and operated.

Knife River Corporation purchased Morse Bros. Prestress, along with the rest of Morse Bros., Inc., in the late 1990's. This acquisition was a natural business transition following tremendous successes on the part of both companies. Combined, Knife River Prestress can offer the enhanced services of Knife River Corporation while continuing to provide customers with local, personalized solutions for their construction materials needs.

Today, our parent company, Knife River Corporation, allows us to tap into the collective expertise of more than 60 companies nationwide, operating in 17 states in the central, western and southern United States, and in Alaska and Hawaii. Knife River Precast's primary facility is located in Harrisburg, Oregon.

We are an award-winning leader in the industry, offering a wide variety of precast/prestressed concrete components for long and short-span highway and rail bridges. We also provide precast architectural and structural products for parking structures, commercial buildings, warehouses, manufacturing plants, multi-unit housing, educational facilities, offices, high-tech and athletic facilities. Over the years we have built a local and national reputation as one of Oregon's leading providers of quality aggregate-based products.

Our professional, experienced staff can evaluate your specific project and provide suggestions and recommendations for the most attractive, durable and cost-effective products possible.

We are proud of our history and the values of quality and customer service our founders wove into the fabric of our culture. Be assured that these fundamental values live on and are a part of every product we produce.

Feel free to drop by and take a look for yourself, the door is always open. For more information please visit our web site at www.kniferiverprestress.com

Parking structures

play an important role in today's business environment. As land becomes scarce and more expensive, owners and developers are realizing the benefits of multi-layered parking structures.

A good first impression can be made or lost by a business depending on how attractive or safe the parking structure for the business looks and feels. Initial costs are usually among the owner's top priorities, but aesthetics, safety, life-cycle costs and long-term maintenance are considerations as well. With precast concrete, owners can realize lower life-cycle costs for a structure, while building attractive, sustainable, and eco-friendly structures.

The openness of a precast parking structure provides an atmosphere of safety. This feeling of security is enhanced by eliminating columns and shear walls required by other systems. Openings in life walls maximize the line of sight and reduce potential hiding places. Since parking facilities create a visitor's first and last impression, security is a high priority.

The inherent properties of precast concrete make it a very durable and sustainable choice for a building product. Since precast concrete is cast off-site there is minimal site work required and less of an impact when compared to on-site, conventional construction. Precast concrete can also contribute several points in five of the six LEED categories.

Knife River has the experience, staff, expertise and product line to balance all these elements and manage an efficient plan from start to finish. The right choices will be made to minimize time and cost while providing a valued facility for the customer.

With precast concrete, virtually any design can be created on the exterior of the structure, allowing for any shape, color or texture desired. Formliners, brick inlays, and exposed aggregates can all be used to achieve the owner's goal, from a bright, contemporary look to a classic, historical style.

Our strategic partnership with your design team means communications will remain constant throughout the project. The design/build approach is a cost-effective alternative. It means a single source has responsibility for the structure, which expedites construction and keeps the project within budget.

Parking Structures

Benefits Of Using Precast/Prestress Concrete

There are many building and structural systems on the market today. None offer the cost-saving advantages of precast/prestressed concrete components.

Versatility, Quality, Economy

The versatility of a precast concrete system is unmatched. The components of an entire facility can be precast to precise specifications. Plant manufacturing results in substantial economies through repetitive manufacturing and stringent quality control.

Speed of Construction

Precast and prestressed concrete components are manufactured at the plant and away from site preparation and foundation work, which reduces project congestion and disturbance. Products are shipped to the site as needed and can be erected directly from the delivery truck, greatly reducing time, labor and weather delays.

Attractive Appearance

The pattern, texture, and color variations of architectural precast and prestressed concrete are practically unlimited. The simple, clean shapes of these components project an image of strength and beauty combined.

Fire Resistance

Precast and prestressed concrete's unique fire resistance protects both life and property while reducing insurance rates.

Low Noise Transmission + Energy Conservation

Precast and prestressed concrete components are dense materials that provide both excellent sound attenuation and energy savings. Precast construction allows minimal air infiltration — the thermal mass delays internal temperature changes and reduces peak heating and cooling loads. Sculptured shapes facilitate shading for window areas. In addition, insulation can be cast-in during manufacturing, which increases the U-factor.

Durability

Precast and prestressed concrete is exceptionally resistant to impact, corrosion, weathering, abrasion and vandalism, making it virtually maintenance free.

Cost Effectiveness

Fabrication occurs year-round, regardless of weather and events at the construction site. Work can begin as soon as designs are completed. In a precast/prestressed concrete building, floor-to-floor height is appreciably less, thus reducing the building height and volume and reducing heating and cooling costs. In bridges, superstructures can be kept more shallow to better provide maximum clearance and minimum approach grades.

Longer Economic Life

Precast and prestressed concrete structures give added years of service with a minimum of repairs and maintenance.

www.kniferiverprestress.com | 1-800-452-6301





KNIFE RIVER

AN MDU RESOURCES COMPANY

Owners and developers considering new structures in today's market must balance a variety of needs, including aesthetics, ease of use and cost-efficiency. To maximize each of these goals, they are increasingly turning to precast/prestressed concrete as the solution to their commercial, municipal and institutional parking structure needs.

Precast/prestressed concrete is a highly adaptive and easily erected material that responds well to site needs and can meet almost any structural requirement. It can be produced, finished and erected faster than other construction methods, resulting in sharply reduced financing costs and faster returns on your investment. Precast/prestressed structures require minimal maintenance, which saves you thousands of dollars over the life of the structure.

Precast/prestressed concrete—produced in controlled factory conditions and erected under stringent quality controls—ensures that a parking structure remains durable and corrosion-resistant for decades. Improved impermeability, greater compressive strength, controlled curing, better clear cover and crack control are just some of the advantages precast/prestressed structures offer over cast-in-place.

No single construction material lends itself to such a versatile array of architectural treatments. Rich blended aggregates, stone masonry veneers, decorative reveals and joints—all these can be incorporated into your product at the precaster's plant, saving valuable on-site finishing time.

23505 Peoria Road / PO Box 181 | Harrisburg, Oregon 97446

Phone: 541-995-6327

www.kniferriverprestress.com



KNIFE RIVER
AN MCR RESOURCES COMPANY

Architectural Cladding

Knife River Prestress is owned by Knife River Corporation, one of the Top 10 Aggregate Producers in America and one of only three companies in that distinction that remains U.S.-owned and operated.

Knife River Corporation purchased Morse Bros. Prestress, along with the rest of Morse Bros., Inc., in the late 1990's. This acquisition was a natural business transition following tremendous successes on the part of both companies. Combined, Knife River Prestress can offer the enhanced services of Knife River Corporation while continuing to provide customers with local, personalized solutions for their construction materials needs.

Today, our parent company, Knife River Corporation, allows us to tap into the collective expertise of more than 60 companies nationwide, operating in 17 states in the central, western and southern United States, and in Alaska and Hawaii. Knife River Precast's primary facility is located in Harrisburg, Oregon.

We are an award-winning leader in the industry, offering a wide variety of precast/prestressed concrete components for long and short-span highway and rail bridges. We also provide precast architectural and structural products for parking structures, commercial buildings, warehouses, manufacturing plants, multi-unit housing, educational facilities, offices, high-tech and athletic facilities. Over the years we have built a local and national reputation as one of Oregon's leading providers of quality aggregate-based products.

Our professional, experienced staff can evaluate your specific project and provide suggestions and recommendations for the most attractive, durable and cost-effective products possible.

We are proud of our history and the values of quality and customer service our founders wove into the fabric of our culture. Be assured that these fundamental values live on and are a part of every product we produce.

Feel free to drop by and take a look for yourself; the door is always open. For more information please visit our web site at www.kniferiverprestress.com

Architectural Cladding

The material of choice wherever low maintenance, economy, strength, and aesthetics are important, Architectural Precast Concrete refers to both the interior structural members and to the exterior facade or "cladding" of a structure. The application of various structural and non-structural shapes, and various finishes, colors and textures, contributes to and enhances the form and finished effect of a building.

Architectural Precast Concrete can be shaped, molded, colored, and textured into infinite possibilities, which puts the designer in complete control of the building's cladding design. This makes precast an ideal solution for high-rise and low-rise offices, residential or commercial buildings.

Internally, precast concrete is usually composed of columns and beams, and floor and roof systems that provide support for a building's exterior. Externally, precast concrete is commonly used as "cladding," but can also be used as exterior "form-work" for other concrete structural systems. This exterior Architectural Cladding has a virtually unlimited number of effects that can be achieved with its use. It can be designed with exquisite precision to create depth, light and shade, or shadows. Just changing pigments, sands and aggregates, can produce an unlimited choice of colors. Custom textures can be attained with different surface treatments. Masonry and stone veneers can be cast into the panels at the plant, allowing designers to get the effects that they want and aesthetics that convey quality, permanence, and craftsmanship.

In addition to durability and versatility, Architectural Cladding panels offer an assortment of environmental benefits ranging from erection speed and reduced site disruption, to energy savings and use of recycled materials. Using precast concrete panels can also contribute to a number of LEED credits.

Architectural precast concrete cladding is economical to manufacture, erect, and maintain. It has excellent acoustic properties, is fire resistant, and provides a watertight building skin. It's the material of choice for architects, engineers, developers, and owners with fast-track projects. Components are manufactured at our plant, away from site preparation and foundation work, allowing other trades to start work earlier resulting in reduced financing costs and faster returns on investments.

Architectural Cladding

Benefits Of Using Precast/Prestressed Concrete

There are many building and structural systems on the market today. None offer the cost-saving advantages of precast/prestressed concrete components.

Versatility, Quality, Economy

The versatility of a precast concrete system is unmatched. The components of an entire facility can be precast to precise specifications. Plant manufacturing results in substantial economies through repetitive manufacturing and stringent quality control.

Speed of Construction

Precast and prestressed concrete components are manufactured at the plant and away from site preparation and foundation work, which reduces project congestion and disturbance. Products are shipped to the site as needed and can be erected directly from the delivery truck, greatly reducing time, labor and weather delays.

Attractive Appearance

The pattern, texture, and color variations of architectural precast and prestressed concrete are practically unlimited. The simple, clean shapes of these components project an image of strength and beauty combined.

Fire Resistance

Precast and prestressed concrete's unique fire resistance protects both life and property while reducing insurance rates.

Low Noise Transmission + Energy Conservation

Precast and prestressed concrete components are dense materials that provide both excellent sound attenuation and energy savings. Precast construction allows minimal air infiltration — the thermal mass delays internal temperature changes and reduces peak heating and cooling loads. Sculptured shapes facilitate shading for window areas. In addition, insulation can be cast-in during manufacturing, which increases the U-factor.

Durability

Precast and prestressed concrete is exceptionally resistant to impact, corrosion, weathering, abrasion and vandalism, making it virtually maintenance free.

Cost Effectiveness

Fabrication occurs year-round, regardless of weather and events at the construction site. Work can begin as soon as designs are completed. In a precast prestressed concrete building, floor-to-floor height is appreciably less, thus reducing the building height and volume and reducing heating and cooling costs. In bridges, superstructures can be kept more shallow to better provide maximum clearance and minimum approach grades.

Longer Economic Life

Precast and prestressed concrete structures give added years of service with a minimum of repairs and maintenance.

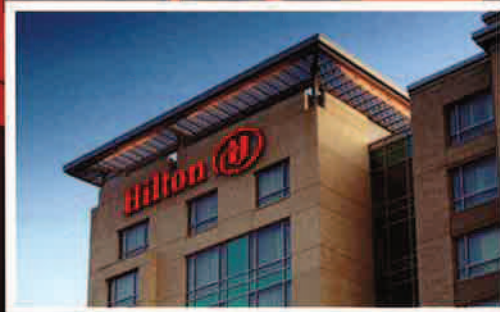
www.kniferiverprestress.com | 1-800-452-6301





KNIFE RIVER

AN MDU RESOURCES COMPANY



23505 Peoria Road / PO Box 181 | Harrisburg, Oregon 97446

Phone: 541-995-6327

www.kniferriverprestress.com



Platform Building

Knife River Prestress is owned by Knife River Corporation, one of the Top 10 Aggregate Producers in America and one of only three companies in that distinction that remains U.S.-owned and operated.

Knife River Corporation purchased Morse Bros. Prestress, along with the rest of Morse Bros., Inc., in the late 1990's. This acquisition was a natural business transition following tremendous successes on the part of both companies. Combined, Knife River Prestress can offer the enhanced services of Knife River Corporation while continuing to provide customers with local, personalized solutions for their construction materials needs.

Today, our parent company, Knife River Corporation, allows us to tap into the collective expertise of more than 60 companies nationwide, operating in 17 states in the central, western and southern United States, and in Alaska and Hawaii. Knife River Precast's primary facility is located in Harrisburg, Oregon.

We are an award-winning leader in the industry, offering a wide variety of precast/prestressed concrete components for long and short-span highway and rail bridges. We also provide precast architectural and structural products for parking structures, commercial buildings, warehouses, manufacturing plants, multi-unit housing, educational facilities, offices, high-tech and athletic facilities. Over the years we have built a local and national reputation as one of Oregon's leading providers of quality aggregate-based products.

Our professional, experienced staff can evaluate your specific project and provide suggestions and recommendations for the most attractive, durable and cost-effective products possible.

We are proud of our history and the values of quality and customer service our founders wove into the fabric of our culture. Be assured that these fundamental values live on and are a part of every product we produce.

Feel free to drop by and take a look for yourself; the door is always open. For more information please visit our web site at www.kniferiverprestress.com

Precast Platform Buildings

are best described as a precast concrete solution that works in conjunction with wooden constructions up to four stories in height.

Condominiums, apartments, and hotels often need at grade or below grade parking to serve as a platform for a wooden structure above. The precast platform must be able to meet both the fire separation requirements and structural loading requirements, due to both gravity and dynamic seismic loadings.

Because the parking layout dictates the location of the columns, in certain instances the bearing walls and wooden structure may not line up optimally. If the hollowcore capacity cannot support the wall loads above, due to column placement, it is often possible to substitute a solid slab with more reinforcing in the high load area to maintain the structural depth.

Precast components for these platform structures can be produced simultaneously with the foundation work at the jobsite. Columns can either be precast or cast-in-place. The precast soffit beams must be shored until the composite field topping is placed and fully cured. These precast/prestressed concrete components also allow for a very good span-to-depth ratio, minimizing the total structural depth at that level.

Vertical openings, for plumbing or electrical requirements, can either be installed during in the precasting process, or can be drilled in the field. If the penetrations are drilled in the field, their placement must be coordinated ahead of time to avoid cutting the prestressing strand in the precast hollowcore or solid slabs.

Once the foundation and columns are ready, the precast deck can be erected quickly. The field topping can then be cast, creating a platform that is ready for the construction of the wooden structure above.

Knife River has been a provider of many Precast Platform Buildings. These platforms have historically compressed the construction timeframe and have proven to be a superior choice when compared to steel and cast-in-place concrete solutions.

Platform Building

Benefits Of Using Precast/Prestressed Concrete

There are many building and structural systems on the market today. None offer the cost-saving advantages of precast/prestressed concrete components.

Versatility, Quality, Economy

The versatility of a precast concrete system is unmatched. The components of an entire facility can be precast to precise specifications. Plant manufacturing results in substantial economies through repetitive manufacturing and stringent quality control.

Speed of Construction

Precast and prestressed concrete components are manufactured at the plant and away from site preparation and foundation work, which reduces project congestion and disturbance. Products are shipped to the site as needed and can be erected directly from the delivery truck, greatly reducing time, labor and weather delays.

Attractive Appearance

The pattern, texture, and color variations of architectural precast and prestressed concrete are practically unlimited. The simple, clean shapes of these components project an image of strength and beauty combined.

Fire Resistance

Precast and prestressed concrete's unique fire resistance protects both life and property while reducing insurance rates.

Low Noise Transmission + Energy Conservation

Precast and prestressed concrete components are dense materials that provide both excellent sound attenuation and energy savings. Precast construction allows minimal air infiltration — the thermal mass delays internal temperature changes and reduces peak heating and cooling loads. Sculptured shapes facilitate shading for window areas. In addition, insulation can be cast-in during manufacturing, which increases the U-factor.

Durability

Precast and prestressed concrete is exceptionally resistant to impact, corrosion, weathering, abrasion and vandalism, making it virtually maintenance free.

Cost Effectiveness

Fabrication occurs year-round, regardless of weather and events at the construction site. Work can begin as soon as designs are completed. In a precast/prestressed concrete building, floor-to-floor height is appreciably less, thus reducing the building height and volume and reducing heating and cooling costs. In bridges, superstructures can be kept more shallow to better provide maximum clearance and minimum approach grades.

Longer Economic Life

Precast and prestressed concrete structures give added years of service with a minimum of repairs and maintenance.

www.kniferiverprestress.com | 1-800-452-6301



KNIFE RIVER

AN MDU RESOURCES COMPANY



23505 Peoria Road / PO Box 181 | Harrisburg, Oregon 97446

Phone: 541-995-6327

www.kniferriverprestress.com