


Opus' Integrated Expertise Delivers Value on Diverse Project Types

Tackling Heavy Manufacturing Facilities



More than six decades in the making, Opus has a strong track record of delivering highly-successful projects for a diverse portfolio of clients. As the company has grown and expanded its portfolio, its associates have culturally become accustomed to mastering new project types. As a result, Opus is consistently able to mitigate risks to maximize success on each project across a wide variety of sectors.

How do they do it? Key word: collaboration. Opus' [integrated in-house team](#) of development, design and construction professionals work together, repeatedly, on project after project. That continuity of team members is a huge asset that delivers uber efficiency, effectiveness and value for clients. It also enables their teams to apply lessons learned from one project type or sector to the next, establishing deep knowledge and understanding of critical success factors that can be leveraged across their entire project delivery platform.

For example, Opus has a long history of developing, designing and constructing [quality warehouse and industrial buildings](#). Speed of delivery for the envelope, or exterior, is critical for these facilities. Opus has proven its performance time and again. Likewise, speed of delivery for envelopes of heavy manufacturing facilities, which are similar, is equally (if not more) critical. Accelerating that phase of construction on heavy manufacturing projects is key, since these interiors are typically more complex and require longer timeframes for process planning and installation of equipment, mechanical and electrical systems. **Opus understands time is of the essence for manufacturing clients – and they deliver.**

Opus' Heavy Manufacturing Expertise

Heavy manufacturing facilities are unique because, unlike spec warehouse/industrial buildings, each facility is designed and constructed to support a specific manufacturing process. Opus' project team enjoys learning about each client's unique manufacturing process and being able to facilitate improvements in the macro workflow. The buildings typically have special requirements, including, but certainly not limited to, robust structural foundations, heavy electrical and mechanical installations and specialized equipment considerations. In addition, they need to be custom designed to the property to ensure logistics flow smoothly in and out of the building, sometimes involving alternate transportation methods like railroad service.

Delivering manufacturing facilities is a complex process that involves many moving, interrelated parts. A phased, flexible design approach that can be tweaked along the way is necessary to ensure the client's building performs as efficiently as possible. Current and past clients, like North Star Sheets, Andersen Corporation and VPET USA, selected Opus because they trust the unique Opus approach and the collective expertise of the team to deliver a solid, top-performing facility that supports their business goals.

North Star Sheets at Southeast Industrial Park – Cottage Grove, Minnesota

Serving as developer, design-builder, architect and structural engineer, Opus delivered a highly-specialized 161,000-square-foot, rail-served manufacturing facility for North Star Sheets, a corrugated cardboard manufacturer. The client initially contacted Opus about the property in late December 2017. The project was ready for the owner to install equipment within seven months, had code occupancy in eight months and was operational in less than nine months.



Eric Ryan
Project Manager

"The number one take away from the North Star Sheets building was the speed at which we completed the project," said Eric Ryan, Project Manager. "Before Opus had been contacted, the client's process equipment had been ordered and had a set delivery date. We needed to have a 161,000-square-foot building zoned, designed, built and fully production operational within a nine-month period – and Opus not only delivered but beat that schedule. We delivered in less than 9 months compared to the typical industry timeline would require 12 to 15 months to complete a project like this."



The construction portion of the project, from start to certificate of occupancy, was completed in just five months. Opus tapped into their expertise on previous similar projects, employed strong preplanning and used the Last Planner® lean construction management system. Weeks of time efficiency were gained from regularly-scheduled planning sessions with all critical path subcontractors and Opus field associates. Opus field and project management associates kept everyone accountable while ensuring that jobsite safety remained a priority during daily and weekly meetings.

Floor slab performance had been a challenge for North Star Sheets in previous non-Opus projects, so the team worked together to analyze the issues and implement processes and technologies for a better outcome. They strengthened the soil with extra compaction, increased stability with additional rock base below the slab and used maximum control joint spacing of up to 50' on center and steel plate armored joint edges and a concrete mix with heavy integrated helix steel fibers to further strengthen the slab designs. The final solution was a slab engineered to perform much better under the load conditions required for this type of manufacturing and specifically for the operational needs of North Star Sheets.

"We constructed and installed very specific structural foundations to support production equipment for the operation," said Ryan. "The equipment could not be delivered until the foundations were installed and fully cured – and the timeline to do this was tight. The foundation designs had almost no tolerance allowances, so they needed to be correct and exact the first time. And our team delivered them – to spec and on time, including allowing the client to move in before the building was fully finished."

Opus also engaged electrical and mechanical experts to design a more efficient solution for feeding power to various equipment systems, as well as a more cost-efficient and simplified operating power control system. All electrical, plumbing and HVAC systems will support not only current equipment systems, but future expansions as well.

The North Star Sheets facility also required railroad service into the building. This presented a unique challenge, as Opus needed to get this railroad service into the facility with a five-month period instead of the standard nine-to-12 months.

“The railroad has very strict guidelines and long approval times,” said Ryan. “It required considerable coordination with them to explain our needs, determine a route and get approval. To ensure we met the client’s compressed schedule, we moved to secure early preliminary approval on the drawings so we could order rail switches and related materials months before confirming official approval. In addition, we had to find a way to ship a 150’ long by 18’ wide rail switch via truck, because transporting by rail would not fit our project timeline. So, we found a source to dismantle the switch and coordinated with a traffic logistics company to ship the oversized load from western North Dakota to Minnesota in order to keep project delivery on track.”



"This project is a great example of the significant value a fully-integrated design-builder like Opus can bring, as we are uniquely positioned to work proactively with municipalities and specialty partners to ensure the product is delivered as promised."

Eric Ryan
Project Manager
Opus Design Build, L.L.C.

City support was also pivotal and entitlements needed to be quick, so Opus accelerated the process by working judiciously with the planning department, planning commission and city council. Zoning/plan review and the permit drawings needed to be approved simultaneously, which required super-efficient designs to meet minimum standards for permitting, while being consistent with the yet-to-be-finalized approved site plan. "This project is a great example of the significant value a fully-integrated design-builder like Opus can bring, as we are uniquely positioned to work proactively with municipalities and specialty partners to ensure the product is delivered as promised," said Ryan.

Andersen Corporation – Goodyear, Arizona

Slated for completion in December 2019, Opus is developing, designing and constructing a manufacturing facility in the Goodyear Crossing Industrial Park in southwest Phoenix for Andersen Corporation, a premium brand window and door manufacturer. The project, which supports Andersen's strategy to meet demand by expanding its presence in the western U.S., will be the company's first branded facility in Arizona, the first build-to-suit manufacturing building in the company's 100-year history and the first to facilitate the entire manufacturing process (assembly, storage and distribution) from start to finish.

Why did they trust Opus with all of these firsts? Perhaps due to the expertise of the team, efficiency of the design-build delivery model and certainty of outcome the Opus approach provides.

The 555,000-square-foot, rail-served building features a two-story glass front entry and 27,000 square feet of office space with a mezzanine. The 37'-6" clear height facility will have 34 fully-secured, 100% concrete truck bays on the east side and six on the southwest corner. It will also have four silos to store material brought in by rail, dust collection systems, extrusion and compounding manufacturing processes, a regenerative thermal oxidizer and ESFR sprinkler system and heating and cooling systems throughout the manufacturing area.

"Andersen has a tight timeline for this project," said Nick Lauters, Senior Project Manager. "To support their need to have production up and running and product moving in and out of the building in early 2020, we have an accelerated schedule to deliver a completed building to allow Andersen to occupy when needed to ensure they are operational within their timeline."



Nick Lauters
Senior Project Manager

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Nick Lauters
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“As with most manufacturing projects, many interrelated variables that affect the design were not available to the client, or us, in advance. This is where our unique one-team, vertically integrated approach at Opus really makes a difference. We need to be extremely flexible, nimble and able to incorporate those variables at the time the client can provide them,” he said.

The Andersen project is on-track to deliver as promised in December 2019.

Because all functions at Opus – development, design, architecture, engineering and construction – are under one roof, collaborating on behalf of clients, including fine-tuning designs and plans when the information becomes available, is easier for them. The Andersen team’s trust and confidence in Opus and its integrated delivery model resulted in Andersen awarding a second major manufacturing project to Opus just six months after breaking ground on this project.

VPET USA – Romeoville, Illinois

Opus recently designed and constructed a build-to-suit manufacturing facility for VPET USA, a bottling manufacturer for brands like Tabasco and Fiji Water, located in Paragon Business Park in Romeoville, Illinois. The project supports growing demand for the company’s products, and the new facility has dramatically increased production capabilities and enabled faster delivery to customers in the central and southern U.S.

The VPET manufacturing facility totals 133,705 square feet, including a 4,800-square-foot office space and 128,000-square-foot general manufacturing warehouse with 40' x 50' bays, 14 loading docks and two drive-in doors.



Tyler Ammerman
Associate Project Manager

"The most challenging part of the VPET project was that the building was originally designed and built as a spec warehouse," said Tyler Ammerman, Associate Project Manager. "Spec warehouses are designed to attract and accommodate the needs of a wide range of clientele, so when VPET expressed interest in the building, we knew they would have very specific requirements beyond the original design of the building. Electrical power presented a considerable hurdle, as their manufacturing operation required significantly more power than the spec 1200 amp service to the building. The local power company indicated a new one-mile feeder would need to be installed to accommodate the requested power requirements. This is where things got complex."

At the time, Opus was developing another spec industrial building in Paragon Business Park. That building, along with two additional spec industrial buildings, all needed power, which would come from the new feeder. Timing for operations to begin at VPET was not aligning with the other buildings, and the power company would not allow any "reserving" of load from the new feeder, since it was first come, first served. Instead of arranging with the power company to install a larger single transformer for VPET's building, Opus coordinated with consultants and the other two builders constructing in the business park, all with different service size needs, and successfully worked with the power company to install a larger capacity feeder that included the service VPET needed. As part of the process, to minimize VPET's electrical costs, Opus strategized to determine exactly the service size VPET needed to operate fully, which was less than the original estimate.

"This process took significant coordination and communication and months of design and installation," said Ammerman. "But ultimately, the new feeder was installed, and VPET received the correct electrical service to support full operation."



Putting the Pieces Together, Delivering Value for You

According to Jim Caesar, Regional Vice President of Project Management and Construction, Opus excels at delivering light and heavy manufacturing facilities like these for several reasons:

- Opus' in-house capabilities in the areas of development, design and construction provide a crucial, comprehensive knowledge base.
- As a vertically integrated design-builder, their ability to make very early commitments to schedule and Guaranteed Maximum Price with performance-based scope specifications and concept design criteria provides many benefits to clients with more technical building projects and/or tight timelines.
- Opus' one-team approach includes providing clients a single point of responsibility and contact point – a skilled design-build project manager who manages the project from concept design development all the way through to completion.
- Their ability to understand clients' goals by asking the right questions early in the process so they can creatively identify solutions and proactively mitigate risks along the way.
- Opus' integrated team has the experience and ability to react quickly and effectively to a client's program changes, as manufacturing clients are often planning their plant equipment and logistics processes in conjunction with the building and site design.
- Their fearless and tenacious approach to tackling challenges as a team, whether they have seen them before or not, is critical for these product types.

The bottom line? Opus' **fully-integrated,** in-house team with expertise in **development, design and construction** delivers clients immense value project after project – even on new project types and in new sectors.

"We have a highly-skilled and creative team at Opus and our people are passionate about delivering efficiency and value to our clients," said Caesar. "For projects like these, our diverse product type background enables us to draw solutions from outside the manufacturing sector, as well as from within it. From light industrial, research and development, food processing and service center projects, to sports arenas, we have seen it all. We leverage all that insight in each new project we deliver."

More information about Opus integrated one-team approach is available [here](#).



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