TEKLA® Structures

TEKLA STRUCTURES IN PRACTICE:

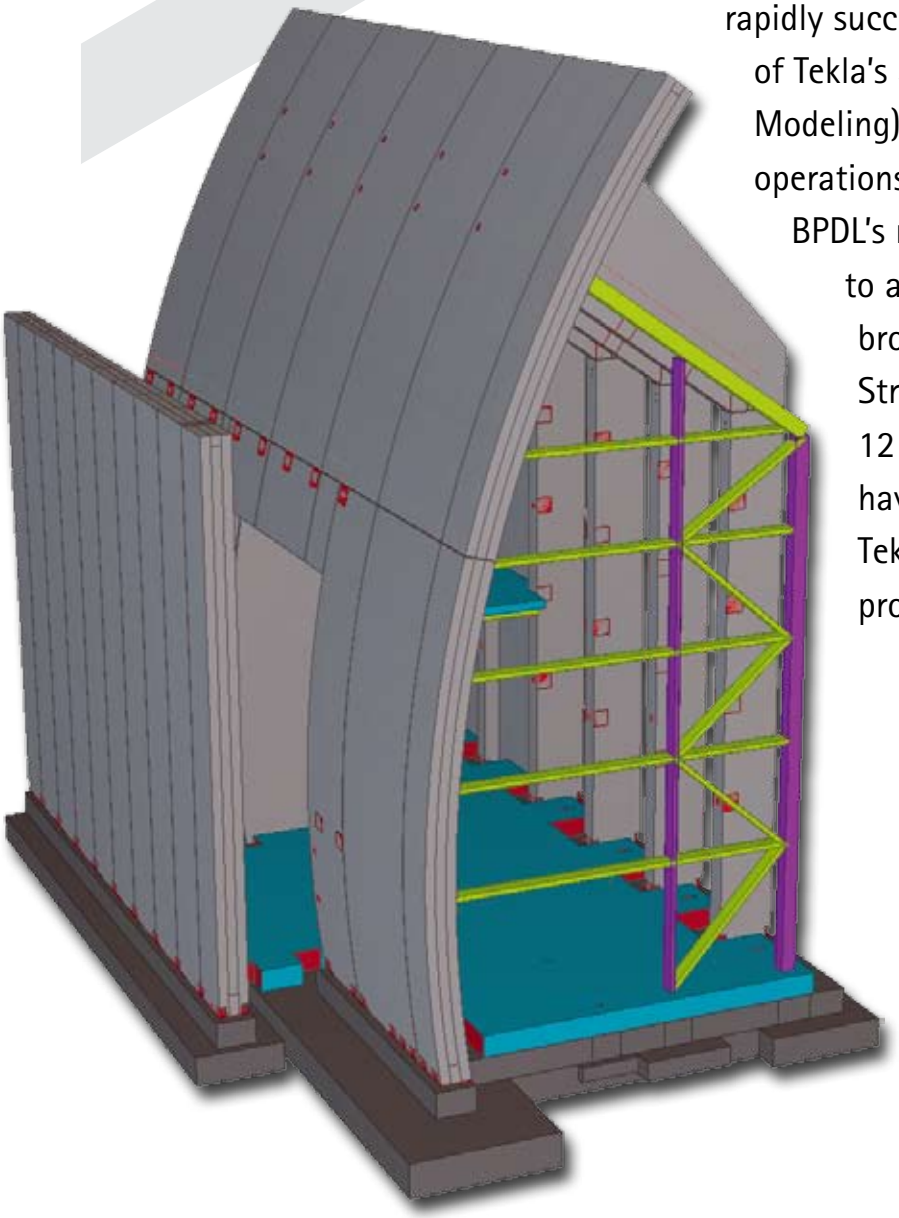
BPDL – BÉTONS PRÉFABRIQUÉS DU LAC, CANADA

TEKLA Structures

THE SOLUTION

FOR PRECAST CONCRETE MANUFACTURING

> Applying new technology to an established way of working can be a cumbersome process, but BPDL, Bétons Préfabriqués du Lac have rapidly succeeded with the implementation of Tekla's 3D BIM (Building Information Modeling) and detailing tool in their operations. Working together, Tekla and BPDL's management team committed to a new way of working, which brought them up to speed using Tekla Structures software. One year later, 12 architectural precast projects have been designed and detailed with Tekla Structures, with many more projects in the pipeline.



ALL IN ONE MODEL

> Tekla is determined to increase the competitiveness and cost savings of the precast concrete sector with fast and effective implementation of an innovative and error-free software tool. Tekla Structures software is the first real parametric 3D BIM solution for precast concrete detailers and manufacturers. It is a unique modeling and detailing solution that integrates the entire precast workflow from sales and conceptual design to manufacture and erection.

Tekla Structures provides our customers with the ability to design and create an intelligent building model of any size, material or complexity with ease and precision. The 3D model contains all the information required for different aspects of a project, including erection drawings, piece tickets, bills of material, scheduling dates, rebar bending schedules, tracking information ,and detailing and production of, e.g., Sandwich panels.

BÉTONS PRÉFABRIQUÉS DU LAC

> One of Canada's leading precast concrete manufacturers, BPDL is a family run business that specializes in the design, production, transportation and installation of precast concrete units. The company has been active in the industry since 1976, with six plants located in Quebec and a plant in São Paulo, Brazil. BPDL has always been characterized by its know-how and advanced technology, but mostly by the quality of its products and the professionalism of its team. As a leader in the industry, BPDL has been invited to participate in the expansion of the Fenway Park, the Hilton at Logan Airport, the Boston tunnel and, most recently, the new NY Yankee Stadium, all of which are good examples of complex and long-range production.

More information at www.bpdl.com

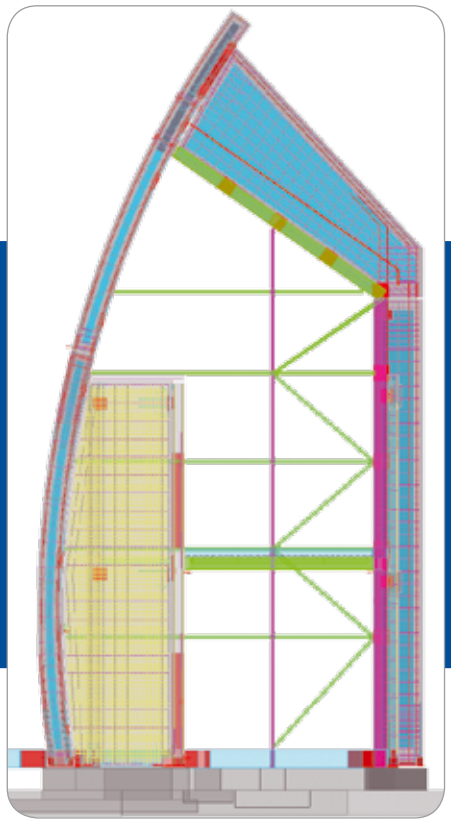
ESSEX COUNTY VETERANS COURTHOUSE

> Essex County Veterans Courthouse was a small but complex job located in Newark, New Jersey. It contained both architectural and structural panels. There were 42 24-inch thick Sandwich Panels with a light sandblast on the exterior, some reaching 30 feet in length, with a complex rebar splicing system and weighing approximately 40,000 lbs each. All of the Sandwich panels were modeled in Tekla Structures.

The project required a temporary steel support structure during the erection process, which called for a very complex erection sequence. Tekla Structures software was used to model each structure, which ranged from simple structural concrete to more complex architectural facades. All erection drawings, shop tickets, reinforcing bars, connections and drawings were generated and completed within the 3D environment of Tekla Structures. BPDL also collaborated with the subcontractors using the steel temporary structure as a reference. In addition, the project involved very complex connection systems and plenty of drawings.

"We are very committed to Tekla Structures and it's proving itself as a new way of working for many precast detailers. Projects in Tekla are now done as rapidly as with CAD, and this continues to improve."

– Guy Bouchard, Vice President and Chief Engineer at BPDL

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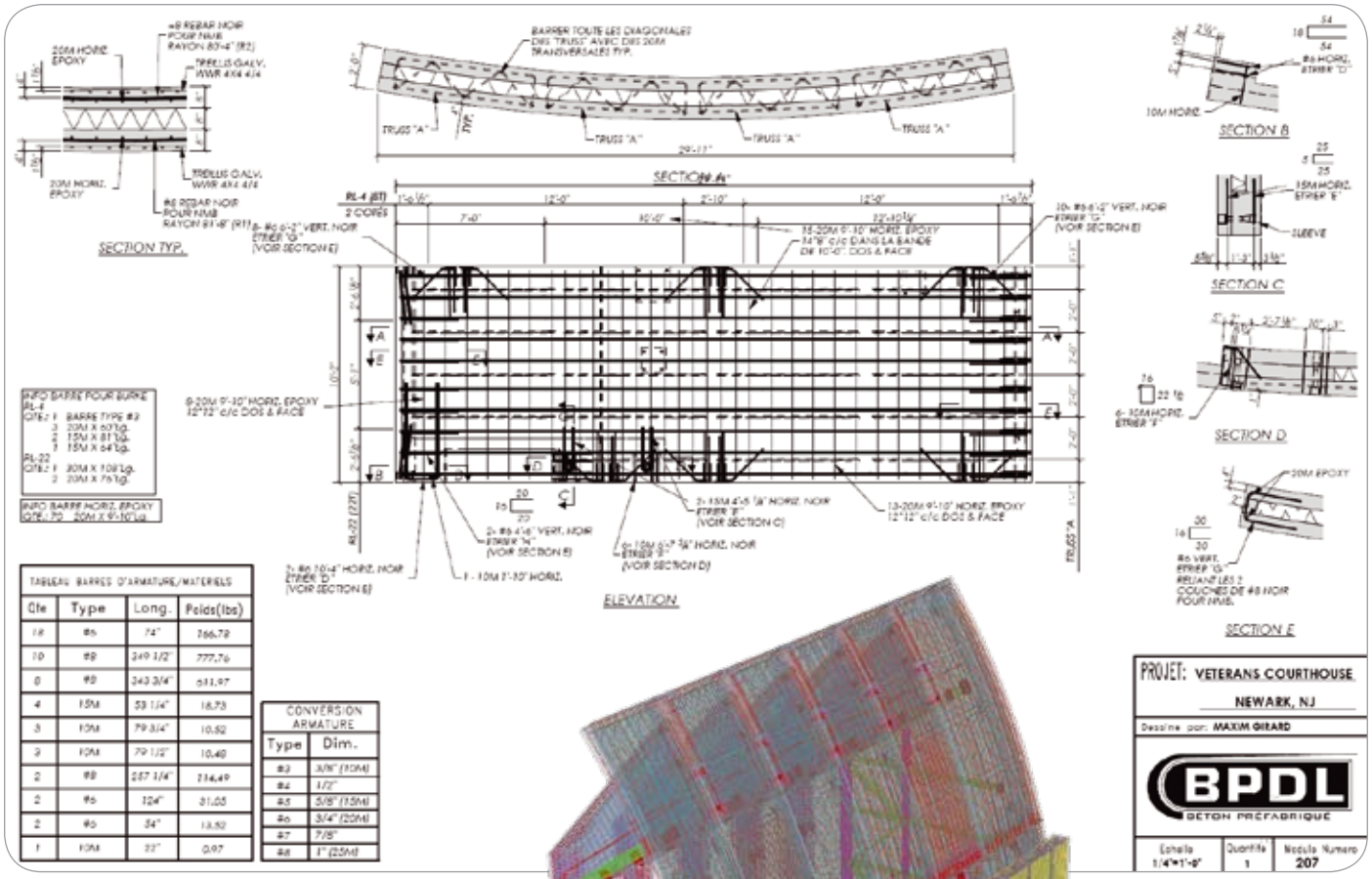
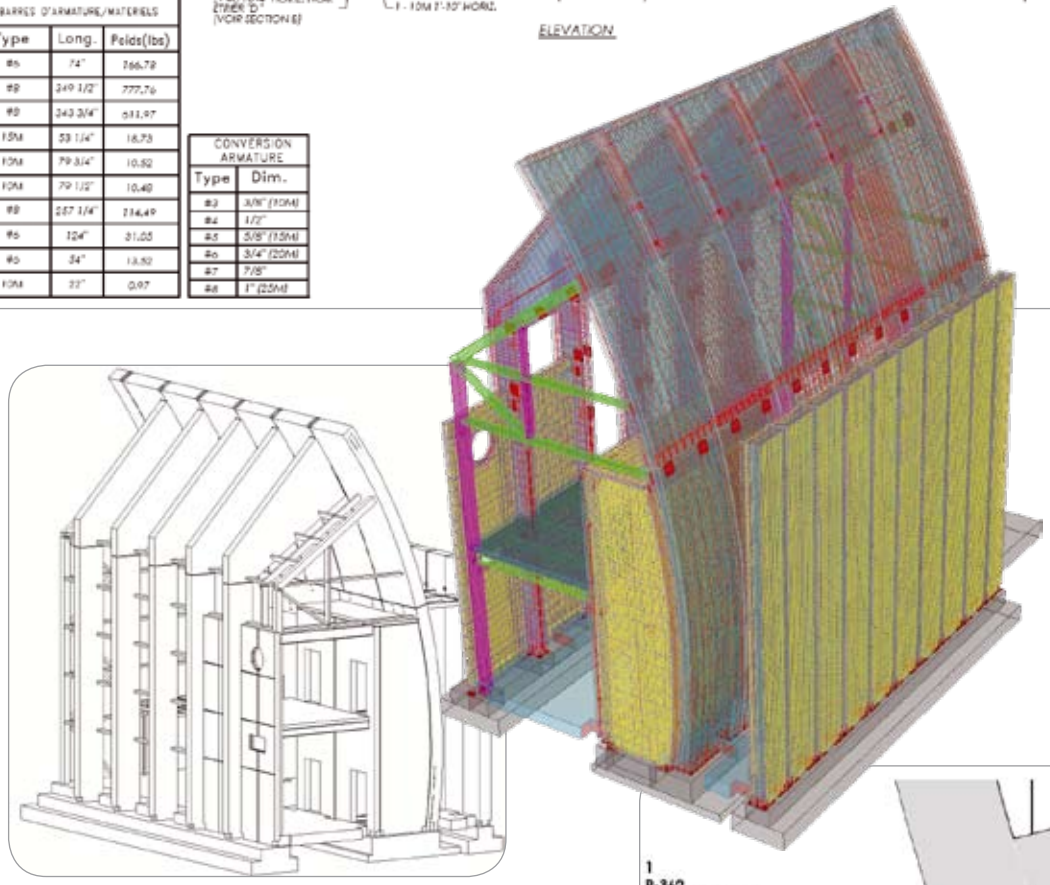
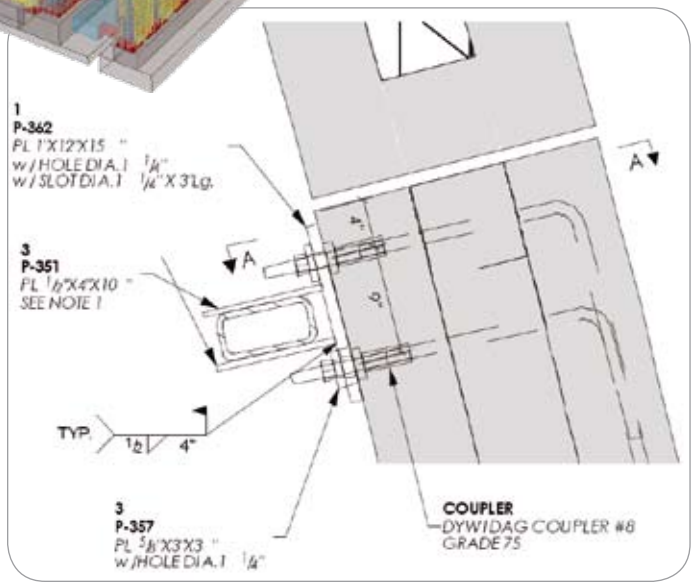


TABLEAU BARRES D'ARMATURE/MATÉRIELS			
Qte	Type	Long.	Poids(lbs)
18	#6	74"	166.78
10	#8	249 1/2"	777.76
8	#8	243 3/4"	633.97
4	15M	53 1/4"	16.78
3	10M	79 3/4"	10.52
3	10M	79 1/2"	10.48
2	#8	257 1/4"	214.49
2	#6	124"	31.05
2	#6	54"	13.52
1	10M	77"	0.97

CONVERSION ARMATURE	
Type	Dim.
#3	3/8" (10M)
#4	1/2"
#5	5/8" (15M)
#6	3/4" (20M)
#7	7/8"
#8	1" (25M)

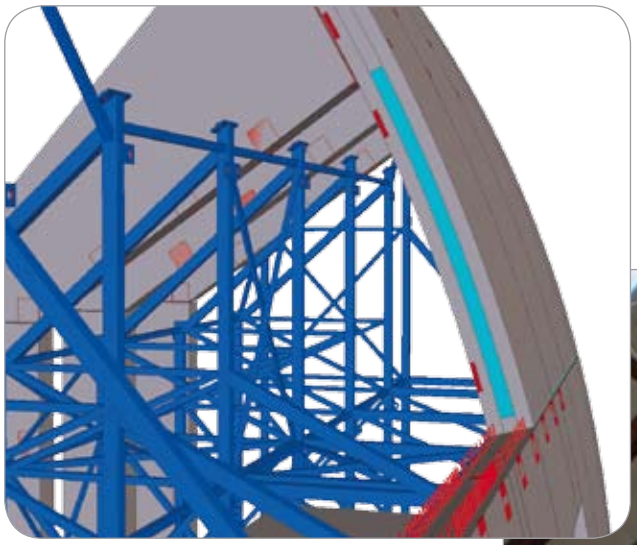




All erection drawings, shop tickets and Sandwich panels were generated and completed within the 3D environment of Tekla Structures

PRECAST AND STEEL IN UNISON

> BPDL had to model the temporary steel support structure of the Essex County Veterans Courthouse to help visualize how the temporary structure would support the precast during the erection. Tekla Structures had a direct impact on how they could use the structural model to see how the precast would be supported. "This type of support system was necessary," said **Guy Bouchard**, Vice President and Chief Engineer at BPDL. "Otherwise the building would not have been erectable."



THE SOLUTION FOR PRECAST CONCRETE MANUFACTURING

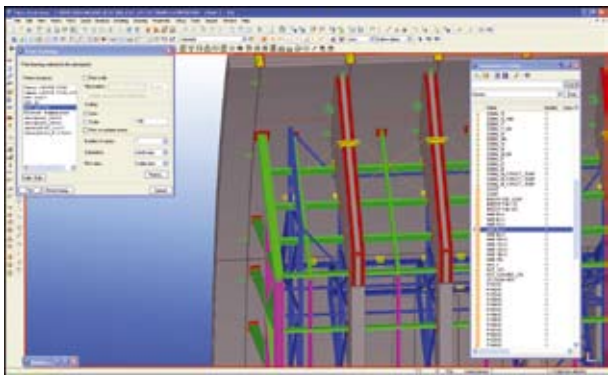
> "BPDL's rapid implementation of our product is a result of their management's commitment to this process and clearly shows that Tekla Structures enhances productivity for Precast Fabricators, and can do so very quickly," stated **Alistair Wells**, Tekla Inc. Segment Manager for Precast in North America.

"We are very committed to Tekla Structures and it's proving itself as a new way of working for many precast detailers. Projects in Tekla are now done as rapidly as with CAD – and this continues to improve. We have already seen a 50% reduction in errors and can now share our 3D models with anyone in the project team," said Guy Bouchard. Today, BPDL has more than tripled their investment in Tekla Structures Precast Detailing licenses and are continuing to convert more of their large detailing group from the older 2D method to the more efficient 3D way of working.

Tekla Structures – Intelligent modeling

TEKLA

> Tekla's model-based software products make customers' core processes more effective in building and construction and infrastructure management. Tekla Corporation has area offices and partner organizations worldwide. International operations account for nearly 85% of net sales. Founded in 1966, Tekla is one of the longest operating software companies in Finland.



> Tekla's technology creates new business opportunities for the construction industry. The most advanced building information modeling (BIM) solution on the market includes an accurate, dynamic and data-rich 3D environment. The highly detailed 'as-built' digital structural models generated with **Tekla Structures** software enable effective visualization and management of the project. Effectively integrating model and non-model-based software solutions allows using the building information model in collaborative workflows. Tekla Structures users can streamline the design, fabrication, and construction processes, ultimately ensuring the highest level of constructability in project delivery. Tekla Structures encompasses specialized configurations for structural engineers, steel detailers and fabricators, concrete detailers and manufacturers, and construction companies.

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