

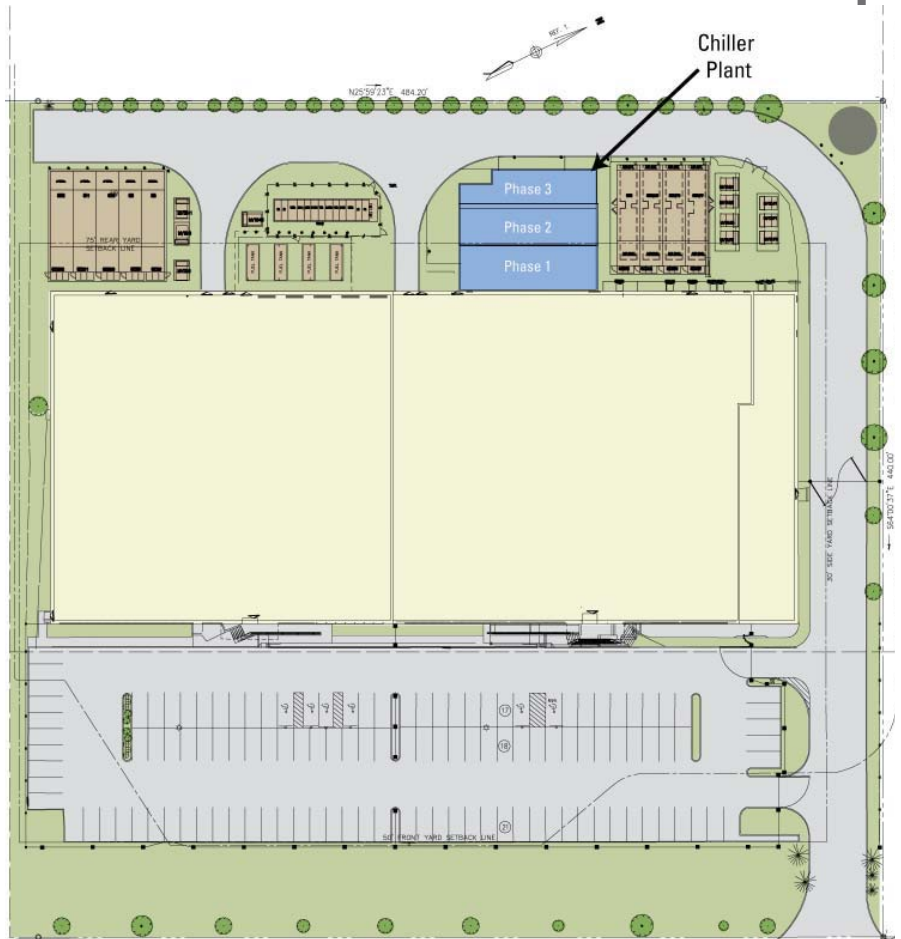
The Modular Chiller Plant

Integrated Design Group was hired by a co-location data center provider to design the rehabilitation of an existing 160,000 SF building in the northeast area of the United States to maximize leasable raised floor area. The project had a goal to be prepared for occupancy by the first clients within six months of the notice to proceed with design.

One of the first issues *idGroup* was called upon to resolve was the design of the chilled water cooling system. The building structure would not support mechanical equipment on the roof; nor could the existing interior slab accept this heavy equipment. In addition, distributing mechanical spaces inside would displace thousands of feet of revenue generating co-location space.

Locating the units on site became the default option, but the site is severely constrained by 75' zoning setbacks that limited the available area for HVAC equipment location. Add to this, the long lead time for zoning variance application, meant that innovative solutions were to be found.

The result is a totally off-site fabricated modular packaged Chiller Plant that contains cooling towers, multiple 900 ton chillers, plate and frame heat exchangers, pumps and all electrical gear.



Site Plan



Modular Chiller Plant

All of this equipment, housed in a structural steel enclosure meeting loading, seismic and acoustical requirements, was fabricated in Ontario and shipped to the site in sections for rapid erection. The solution allowed for phase one HVAC systems to be erected within the existing legal setbacks, while the next two phases will be placed adjacent to the first ones when variances are obtained. In addition, this solution, which demanded tight tolerances best achieved in factory assembly, made for a much faster construction schedule. Testing occurred in the factory so that on-site construction time was reduced to a minimum. The result of phase one can be seen in the accompanying photo.