

1/18/16

## C1S Group Completes Engineering Design and Construction



Medical device manufacturer **Medtronic** engaged **C1S Group** to provide engineering design as well as construction services for its new Fort Worth, Texas facility. C1S, a full-service professional engineering and construction firm based in Dallas, engineered a cleanroom addition as well as other improvements at the building and recently completed construction of the project.

In order for Medtronic to relocate operations to their Fort Worth site, the existing facility had to be upgraded to include a 1,100 square foot ISO8 (Class 100k) cleanroom. Several associated support spaces were also required, including a cleanroom gowning room, a cleanroom walkthrough room, assembly, and cubicle areas. The total renovated space encompasses more than 8,000 square feet.

"Medtronic selected C1S to complete engineering design for this project because of our experience working in existing industrial buildings and our cleanroom expertise. It is important to us to make the design process a collaborative experience. Listening to the end users and facilities teams helps us think about the design from a completed and in operation standpoint," said **Matt Strong**, PE, LEED AP and president of C1S Group. "Next, Medtronic accepted our construction bid to execute the project based on our extensive experience in the construction of cleanrooms and critical facility environments. By applying that expertise, C1S was able to deliver a turnkey solution for Medtronic on time and within budget."

In addition to engineering and constructing the new cleanroom and related spaces for Medtronic, C1S also designed and installed mechanical systems in the facility. To accommodate the cleanroom recirculation air system, the C1S team applied low wall returns using HEPA filters to achieve a minimum ISO 8 condition during facility operations. Specific filter coverage in the ceilings and air handlers is according to standard accepted industry practices and input from Medtronic on the particle generation of the equipment and various processes.

C1S designed the cleanroom to meet certification standards that are a grade below the target classification in an at-rest state to ensure meeting the class level certification at full operation. C1S also sized and selected new rooftop units (RTU) for the cleanroom area and completed ductwork modifications for the existing RTU air distribution system.

C1S designed and installed electrical systems for the space that included power and lighting and feature a dedicated main cleanroom panel that feeds 480/277V power for large equipment as well as step down transformers for 120/208V power. C1S provided grounding loop design for static dissipation with the cleanroom and assembly areas.

C1S also provided the Interior space planning for the Medtronic facility, including specifications for walls, doors, and windows as well as floor coverings, ceilings, and finishes for each new space. C1S ensured exiting and egress from the area complies with code and also confirmed the facility meets any applicable ADA/TASS requirements.

**About Medtronic**

Medtronic plc ([www.medtronic.com](http://www.medtronic.com)), headquartered in Dublin, Ireland, is the global leader in medical technology - alleviating pain, restoring health and extending life for millions of people around the world.

**About C1S Group**

C1S Group is an engineering, construction and sustainability consulting firm specializing in the design and installation of projects for existing facilities. As experts in providing solutions for critical and manufacturing environments, C1S drives energy efficiency, maintainability and value in every project. The C1S client list varies from global Fortune 500 organizations to highly specialized entities with one facility. The C1S business model calls for the agility to work on multiple projects across geographic locations with varying complexities. For more information, visit [www.c1sinc.com](http://www.c1sinc.com).