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Tighe & Bond presented ACEC/MA Gold Award for Sturbridge wastewater treatment facility

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The American Council of Engineering Companies of Massachusetts (ACEC/MA) presented Tighe & Bond with a Gold Award during its 2013 Engineering Excellence and Awards Gala on March 20 at the Royal Sonesta in Cambridge.

This Gold Award recognizes innovative upgrades that Tighe & Bond recently completed for the town of Sturbridge's wastewater treatment facility (WWTF), which became the first full scale combined BioMag/CoMag wastewater system in the nation. The implementation of two new cutting edge and effective treatment processes, BioMag and CoMag, have increased wastewater treatment efficiency, improved water quality, as well as reduced costs and overall environmental impact.

Unlike typical wastewater treatment processes, BioMag uses magnetite - a relatively inexpensive and readily available iron ore - that mixes with sewage microorganisms to improve processing, and double the pace and capacity of wastewater treatment. This system also uses magnets to recycle and reuse the magnetite for repeated and ongoing WWTF usage. These new processes enabled Tighe & Bond to almost double the plant capacity without adding new tanks or substantially increasing the WWTF footprint. At the same time, this technology improves nutrient removal and decreases phosphorous levels for improved water quality and reduced algae growth.

And the financial savings have been considerable. This \$17 million project was completed for \$3 million less than the original estimate approved by the town of Sturbridge's 2008 annual town meeting. Plus, costs were further reduced by a grant of ARRA funds that will reduce the impact on water and sewer rates.

This upgrade to Sturbridge's 40-year-old WWTF, which serves approximately 10,000 residents, came about due to its aging infrastructure, a pending shortfall in the capacity to support future economic and population growth, and deterioration in the water quality of several local lakes and ponds. In addition to treatment process improvements, Tighe & Bond provided permitting, site design, structural, HVAC and electrical engineering for several facility buildings.

Beyond the Sturbridge benefits, this upgrade will improve water quality in the Quinabaug River, and ultimately in Long Island Sound. In addition to water quality improvements, sustainable elements were built into the design that include: reusing blower waste heat for building heat, implementing process and HVAC equipment that match facility demands, and low impact design stormwater management techniques.

Shown (from left) are: Ko Ishikura (ACEC/MA president), Gregory Morse (Sturbridge DPW director), Ian Catlow (Tighe & Bond senior project manager), Mike Becker (Tighe & Bond construction observer), Peter Piattoni (ACEC/MA awards chair), and Shaun Suhoski (Sturbridge town administrator).