

Vitech, Inc.

11947 Madison Pike
Independence, KY 41051

Tel: (859) 363-7100
Fax: (859) 363-0289
www.vitechllc.com

Offering Services in:

- *Wastewater Process Design and Engineering*
- *Facilities Planning*
- *Collection System Design*
- *Pump Station Design*
- *Wastewater Treatment Facility Design*
- *Expansion and Upgrade Design*
- *Biological Nutrient Removal*
- *Natural Tertiary Treatment System Design*
- *Odor Control*
- *Extended Aeration*
- *System Hydraulic Modeling*
- *Wastewater Treatment Facility Assessment and Design*
- *Pilot and Full-scale Testing*
- *Wastewater Treatment Plant Expansion and Upgrade Design*
- *Biological and Chemical Nutrient Removal*

Vitech, Inc. has engineered small flow wastewater treatment system designs for municipalities, land developers, industry, and government since 1992. Vitech offers fully licensed civil engineering services for design and permitting along with turn-key options in project construction management and Vitech O.E.M. treatment equipment. In addition, Vitech has had many years of experience dealing with the complex myriad of EPA regulations concerning small flow wastewater treatment facility design and permitting.

System designs have included secondary and tertiary wastewater treatment, industrial pre-treatment, landfill leach-ate pre-treatment, sanitary and potable water pumping stations, force mains, steel structures, site erected grade mounted potable water tanks, hydraulic network analysis of sanitary and potable water networks and fire flow network modeling. Vitech has extensive background in the evaluation of existing small flow wastewater facilities and facility upgrades.

Vitech, Inc. was founded January 21st, 1992 by Gregory L. Brown, P.E. Mr. Brown began his engineering career in 1987 following his graduation from the University of Kentucky with a Bachelor of Science in Civil Engineering. Mr. Brown serves as the President of Vitech, Inc.

Greg Brown has been a member of the Kentucky Society of Professional Engineers since 1987. He served as President of the Northern Kentucky Chapter from 1994-1995, and is currently serving as Treasurer. Mr. Brown has also been a member of the American Society of Civil Engineers since 1993. Mr. Brown was awarded the KSPE Award of Achievement in Industry in 2000. He was also awarded the National Society of Professional Engineers State Award for Achievement in Industry, 1999-2000. Mr. Brown is a registered engineer in Kentucky, Ohio, and Indiana and is licensed with the National Council of Engineering Examiners (NCEES).

Rick Kelly, P.E., serves as designer and project manager. Mr. Kelly joined Vitech in 2002. He graduated with a Bachelor of Science in Civil Engineering from Ohio Northern University in November, 2000.

Mr. Kelly has been a member of the National Society of Professional Engineers since 2002 and currently serves as President of the Northern Kentucky Chapter of KSPE. Mr. Kelly holds Engineering licenses in both Ohio and Kentucky and is also licensed with the National Council of Engineering Examiners (NCEES).

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SELECTED PROJECT EXPERIENCE

Kentucky Speedway Sanitary Facilities

The Kentucky Speedway presented a challenge for the design team. In the absence of any infrastructure at the start of the project, the approach was to construct a Mini-Regional Facility including a large Aerated Even Holding/Flow Equalization Lagoon with Tertiary Wetland Treatment. The Kentucky DOW proposed and promoted the construction of a Regional Connection to the Carrollton Utilities Plant. The sanitary connection for the Speedway was to be constructed and provided for service by June 16, 2000. The State project did not meet their goal.

Aerated Event Holding/Flow Equalization Lagoon

In order to store and manage the large flows generated during racing events at the Speedway, a 1.3 million gallon (first phase) polyethylene lined earthen lagoon was designed and constructed. The lagoon is maintained in an aerobic state by four (4) floating aspirating aerators. The arrangement and size of the aerators was made to provide for a completely mixed environment within the lagoon for solids management.

Temporary 15,000 gpd Treatment Plant

To provide a temporary solution to the Regional Sewer System delay, a 15,000 gpd Treatment Plant was permitted and constructed. The 1.3 million gallon Aerated Event Holding/Flow Equalization Lagoon held and managed the 500,000 gallon flows generated by the Speedway during events and discharged flow, through 2hp grinder pumps and a V-Notch flow proportioning Weir Box, to the 15,000 gpd Plant at an even and acceptable flow to the plant. This plant served the Speedway brilliantly. It was de-commissioned in May of 2003 upon completion of the regional pump station. The plant was sold and removed from the Speedway.

Speedway Regional Pump Station

Connection to the Regional System involved very restrictive infrastructure provided to the Speedway by Carrollton Utilities. The pump station (Flow Equalization Facility) utilized 60hp, 3600 rpm 4" Vortex pumps to produce 100 gpm of flow through 17,400 feet of 4" diameter HDPE pipe with a 115' static head. The facility has been constructed with piping and layout such that two end-drive centrifugal booster pumps may be added in the future to increase flow to 150 gpm. The booster pumps may be added without re-piping the existing facility or interrupting operations.

Rivershore WWTP

Vitech designed and permitted the Rivershore WWTP as a solution for the Drees Community. The Mini-Regional approach involved arranging a project site for a future 240,000 gpd build-out with the first phase construction utilizing a 60,000 gpd WWTP. The chlorination, de-chlorination, post-aeration, and monitoring facilities were sized for full build-out flow.

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SELECTED PROJECT EXPERIENCE (continued)**Walton WWTP No. 2**

Vitech designed and permitted a Mini-Regional WWTP solution for the Goering Industrial Subdivision and the City of Walton. The Mini-Regional approach involved arranging a project site for a future 150,000 gpd build-out with the first phase construction utilizing a 50,000 gpd WWTP. Construction of the Facility provided the opportunity for the City of Walton to redirect flow, by gravity, from an old failing pump station to the new plant. The redirection of flow from the decommissioned pump station, allowed for much needed capacity within the main Walton WWTP #1 to be re-assigned to other community developments. The chlorination, de-chlorination, post-aeration, and monitoring facilities were sized for full build-out flow.

Exit 95 WWTP - North Madison County Sanitation District

Vitech worked directly with a private property owner to solve sanitary problems associated with prime real estate located on an interchange of Interstate 75, north of Richmond, Kentucky. Vitech worked directly with the County's Judge Executive to persuade the Division of Water to allow construction of a temporary facility. Construction of the temporary 3-year facility was contingent upon the county's commitment to build a future regional system. The temporary system included a 30,000 gpd treatment plant, flow equalization, sludge digestion, rapid sand tertiary filtration, and chlorination/de-chlorination post-aeration facilities. This project now serves as a model for Kentucky's DOW.

Progress Rail, South Morrill, Nebraska

Vitech provided an industrial treatment design solution for the Progress Rail Services. Progress Rail, essentially a 100-acre Quick Lube for locomotives, produced a relatively low flow discharge from their practice of steam cleaning the undercarriage of locomotives prior to installation of new engines. The facility performed no machining or mechanical work other than the installation of stock engines and therefore produced very little flow from this practice. Given the locations extremely low yearly rainfall, Vitech was able to solve their problem with a series of Evaporative Lagoons. All design work was prepared in accordance with and reviewed for permit by the Nebraska Department of Environmental Control.