WINTER
2019

Hayduk Engineering, LLC

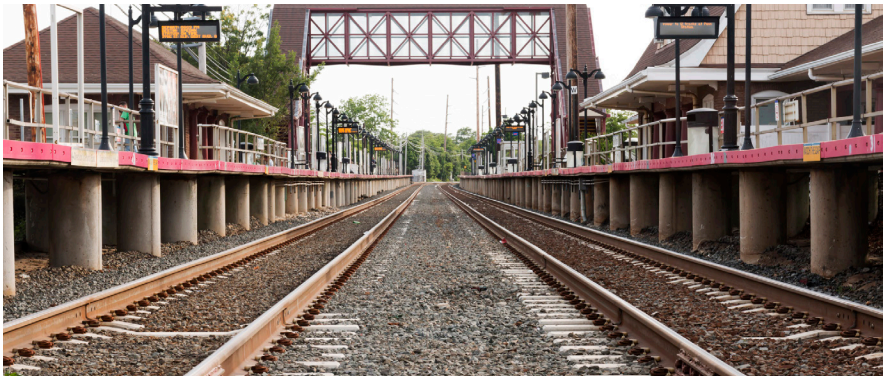
NEWSLETTER

IN THIS ISSUE

2019

Annual Company Picnic

Hayduk Engineering hosted its' 2019 Annual Company Picnic in conjunction with the New York Water Environment Association Long Island Chapter Annual Clam Bake on June 21st. Members of our team took both 1st and 2nd place in the horseshoes competition and one of our staff won $2,500 in the 50/50 raffle! **Go team!**



LIRR EXPANSION PROJECT

The Long Island Railroad (LIRR) Expansion Project (a.k.a., the "Third Track Project") is rapidly advancing towards its scheduled completion in 2022. The long discussed LIRR Expansion Project came to fruition in December 2017 with the award of the design-build contract to 3rd Track Constructors (3TC), a consortium of contractors, subcontractors, engineers, architects, and related tradesmen and professionals. The project includes the addition of a third track, approximately 10 miles of additional railroad track, between the Hicksville and Floral Park LIRR Stations. The project will eliminate seven (7) grade crossings and will provide additional parking garages, retaining walls, sound walls, and improvements to rail bridges. Design for the project technically began during the request for proposals (RFP) stage of procurement and is ongoing to date by 3TC. Pre-construction activities began in early 2018 and major construction activities began

Continued on next page

A MESSAGE FROM THE PRINCIPAL

Time flies! It seems like only a short time ago that I left my position as Chief Engineer at a mid-sized regional consulting firm on Long Island (which no longer exists) and started Hayduk Engineering. Hanging out the shingle, so to speak, was a scary thing to do at that time, especially without any real idea of where the first client and project was going to come from. But that was in the Spring of 1984, over thirty-five years ago. Today, as I sit in our Port Jefferson Station offices and write this, I am proud to say that we have come a long way, and Hayduk continues to progress and grow from those humble roots.

Where did that first project come from? From a colleague in the engineering profession. It wasn't a client stolen away from my former employer. It wasn't a client who I had been wooing and had on board beforehand. It was from another professional engineer, who heard through the grapevine that I had started out on my own, who called me up and brought me in on a project that his office was doing and who wanted to help me get started. I recall once being told by my former employer that activity and participation in technical and professional organizations was costly to the company and did not result in any increased business to the firm. I also recall disagreeing with him, and telling him of my opinion that sometimes a direct correlation can't be made, but inevitably there should be a return for any investment in professional development. He was wrong. The basis for all the growth of Hayduk Engineering over the years has been twofold: first and foremost, technical competence and experience is always the primary necessity. But after that, it has been reputation, professional relationships, activity in the community and professional organizational participation that has been the foundation of our marketing and promotional efforts.

We began and grew over the years, oftentimes as the prime consultant, sometimes as a subconsultant, and in either capacity, usually in one way or another as part of a team. So that's my message. Teamwork. Whether on a micro scale between staff members in the home office itself, or on a larger scale between our firm and other firms, teamwork is the basis of successful projects. Hayduk is proud to be part of many teams on many projects, big and small. It's never "ME", it's always "US". Like they say, there's no "I" in "TEAM".

Stephen G. Hayduk, P.E.

LIRR Expansion continued

in late 2018. Overall, the LIRR Expansion Project is anticipated to reduce railway congestion, provide true bi-directional service during peak hours, and enhance safety.

Hayduk Engineering is working as a subconsultant to Stantec, the lead engineer for 3TC. Our responsibilities include the engineering design of the security fencing along the entire 10 mile long corridor, engineering design of ten (10) hi-rail vehicle access points and fifty-one (51) various access points (emergency, maintenance, bridge, station and substation), the design of a vision screen at the Village

Continued on next page

LIRR Expansion continued

of Floral Park Recreation Center, and civil engineering design support.

A hi-rail vehicle is a vehicle that is capable of operating both on railroad tracks and on conventional roadways. Hi-rail vehicles are specialized vehicles equipped with both conventional rubber tires and flanged steel wheels for operating on the tracks. Engineering design of the ten (10) hi-rail access points was restricted by swept paths of the design vehicles, existing grades, available access from adjacent roads to the tracks, and maintenance of roadway and rail traffic. Custom hi-rail vehicle models and turning movements were generated using Autodesk Vehicle Tracking. The swept path analysis graphically provided the requirements for the alignment of the access point roads and the widths of the security gates. The hi-rail vehicles require access without fouling adjacent tracks.

The proposed hi-rail access point security gates were designed using three functional models; swing gates, sliding/rolling gates, and vertical lift gates. The access gate openings are as wide as 70' in some locations with 2 leaves each at 35' long, cantilevered outward from the gate posts. These conditions required detailed, case-specific foundation designs. The gate leaves are constructed of expanded metal with diamond cut openings.

The Floral Park Vision Screen is intended to provide privacy to the Village of Floral Park Recreation Center visitors, specifically for the pool and slide area. The screen will be constructed of 10' high 48' long metal louvered panels. Hayduk Engineering staff also field verified existing conditions and made additional field measurements to provide the basis for design drawings and sections which depicted the pool slide platform, vision screen and sight lines.

The project has a total budget of $2.6 billion and is subject to an aggressive schedule of deadlines for design submittals. We would like to acknowledge our staff, Paul Campagnola, Bill Morrow, Colin Richardson, Chris Ceresko, George Hayduk and Sameer Haider for their efforts on this assignment. ■

Improving Environmental Sustainability in Patchogue

► Suffolk Center for Rehabilitation and Nursing (SCRN) is a 120 bed skilled nursing facility located in Patchogue, NY. The existing facility was built in the 1970's with a wastewater treatment plant capable of providing secondary treatment only. Upon completion of the Long Island Sound Study in the early 2000's, all wastewater treatment plants that discharge to groundwater or directly to the Long Island Sound were required to be modified to

Continued on next page

Eliminating Pollution continued

provide tertiary treatment for the removal of nitrogen from the wastewater. New York State Department of Environmental Conservation (NYSDEC) State Pollutant Discharge Elimination System (SDPES) permits for such facilities typically have an effluent total nitrogen concentration limit of less than 10 milligrams per liter for discharge. The existing wastewater treatment plant at SCRN was not originally designed and constructed to provide this level of treatment. Additionally, the treatment plant was in very poor structural condition and was not meeting it's permit requirements.

Originally, Hayduk Engineering was retained to design a replacement wastewater treatment plant. Upon completion of contract drawings and specifications for a new sequencing batch reactor wastewater treatment plant on-site, capacity in the Village of Patchogue Sewer District became available. After evaluating the feasibility of making a connection to the sewer district, SCRN applied for and obtained approval to make a sewer connection to the Village of Patchogue Sewer District. SCRN provided funding to the Village to extend their low pressure sewer system to the SCRN property to facilitate the connection of SCRN at the property line.

The project included a flow study of the existing facility to determine actual existing average and peak flow conditions. Based on this information, Hayduk Engineering designed a quad-unit submersible grinder pumping station and low pressure sewer connection to the extension provided by the Village at the property line. The pumps in the wet well are progressive cavity type and the operation is such that 2 pumps handle peak flow conditions with 2 pumps on standby. The pumping station features a 15' deep wet well, a flow meter pit with a magnetic flow meter, an emergency generator, and a timber roof structure to shelter the controls and electrical panels. The pumping station required provisions for dewatering and anti-flotation ballast due to proximity to groundwater.

The pumping station was constructed by Bensin Contracting and brought online in early 2019. The existing wastewater treatment plant and leaching field was demolished shortly thereafter. The project also included the construction of 8' tall precast concrete segmental retaining walls (completed) and the construction of a premanufactured metal storage building, within the footprint of the demolished STP which will be completed in 2020. ■

STONY BROOK Students

▶ Hayduk Engineering has partnered with Stony Brook University to sponsor a group of seniors in the Civil Engineering Department for their senior project course. The course is geared to provide the students with hands-on experience working on a real-world engineering design assignment with a local engineering firm.

The students will be working on this project with their group, their professor, Frank Russo, P.E., and our staff for their entire senior year of college. The assignment involves the preparation and engineering design report for a new sanitary sewer district and the major infrastructure for same. ■

Breaking Ground at The Lofts at Maple and Main

On Monday, October 21, 2019, a groundbreaking ceremony took place for the first Transit Oriented Development (TOD) in Smithtown history, The Lofts at Maple and Main. The event was attended by Suffolk County Executive Steve Bellone, Smithtown Town Supervisor Ed Wehrheim, our client VEA 181st Street Realty, and others. The project site is located across the street from the LIRR Smithtown Train Station and Smithtown Town Hall on the site of the former Nassau-Suffolk Lumber company. The site is conveniently located in the downtown area along with many local retail stores, restaurants, and businesses. When completed, the 3.62 acre site will feature 62 luxury apartments and 10,000 square feet of retail within four (4) three story buildings. Hayduk Engineering was responsible for site planning and civil engineering services as well as wastewater engineering design services for a new 15,000 gallon per day package wastewater treatment plant on-site. We are also providing engineering during construction services. ■

OTHER COMPANY NEWS

NEW HIRES

Christopher R. Butkos, I.E.
Staff Engineer

Nicholas R. Diers, I.E.
Staff Engineer

Nadgee Gonzalez Garcia, I.E.
Staff Engineer II

Philip J. Prendergast
Construction Inspector

Kathy Rae
Public Relations Coordinator

Robert T. Brennan, P.E.
Director of Construction Admin. Services

RECENT CONTRACT AWARDS

PRIME
Suffolk County Dept. of Health Services
On-Call Sewage Treatment Plant Review Services

PRIME
New York State Office of General Services
Civil/Site Engineering Term Contract

SUB
Metro North Railroad
Park Avenue Viaduct Master Plan

SUB
Nassau County Dept. of Public Works
Priority Resurfacing Projects

ANNOUNCEMENTS

George Hayduk obtained ACI Grade 1 Certificate.