

Company Experience



IH Engineers, P.C. (IH) is proud of our history in helping communities achieve the Safe Routes to School Program's goal of encouraging more students to walk and bike to school where it is safe to do so and to improve areas where it could be safer. We have partnered with municipalities and NJDOT to provide quality improvements based on the needs and within the scope of funds available under the program. We strive to enhance a safer environment for walking and bicycling in all our projects, as we have adopted a Complete Streets approach in designing streets that enable safe and efficient travel for all modes including vehicles, transit, pedestrians, and bicyclists.

IH has been providing quality consulting engineering services for over 25 years. We are a locally based firm headquartered in Princeton, NJ, providing personalized and attentive service. We are committed to being the first choice of our clients by providing quality, innovation, technical excellence and cost-effective, on-time performance for design, construction services, and inspection projects throughout the tri-state area. Our team is comprised of civil engineers, traffic engineers, structural engineers, planners, technicians, and inspectors trained in the most current standards for design and inspection. As a result, our firm enjoys a high percentage of repeat business from municipalities, counties, and State agencies.

IH has successfully performed design, construction support and contract administration services for local municipalities on Safe Routes to School projects and projects similar in nature. We are confident in our ability to provide quality assistance to municipalities and streamline the design and construction processes.

Civil/Highway Design

- o Highways & Interchanges
- o Design of Roadway & Intersection Improvements
- o ADA Compliant Design
- o Utility Coordination/Design
- o Hydraulics & Hydrology
- o Stormwater Management
- o Environmental Permitting
- o Grading/ Drainage Improvements
- o Complete Streets Design
- o Bicycle and Pedestrian Facilities

Traffic Engineering

- o Capacity Analysis & Traffic Impact Studies
- o Traffic Signal Design
- o Intersection & Signal Timing Improvements
- o MPT
- o Traffic Calming
- o Warrant & Accident Analyses
- o Traffic Simulation
- o Signing & Striping
- o Parking Analysis & Facilities
- o Data Collection

Structural Engineering

- o Bridge Design
- o Culvert Design
- o Design of Underground Structures
- o Design of Building Structures
- o Design of Temporary Structures

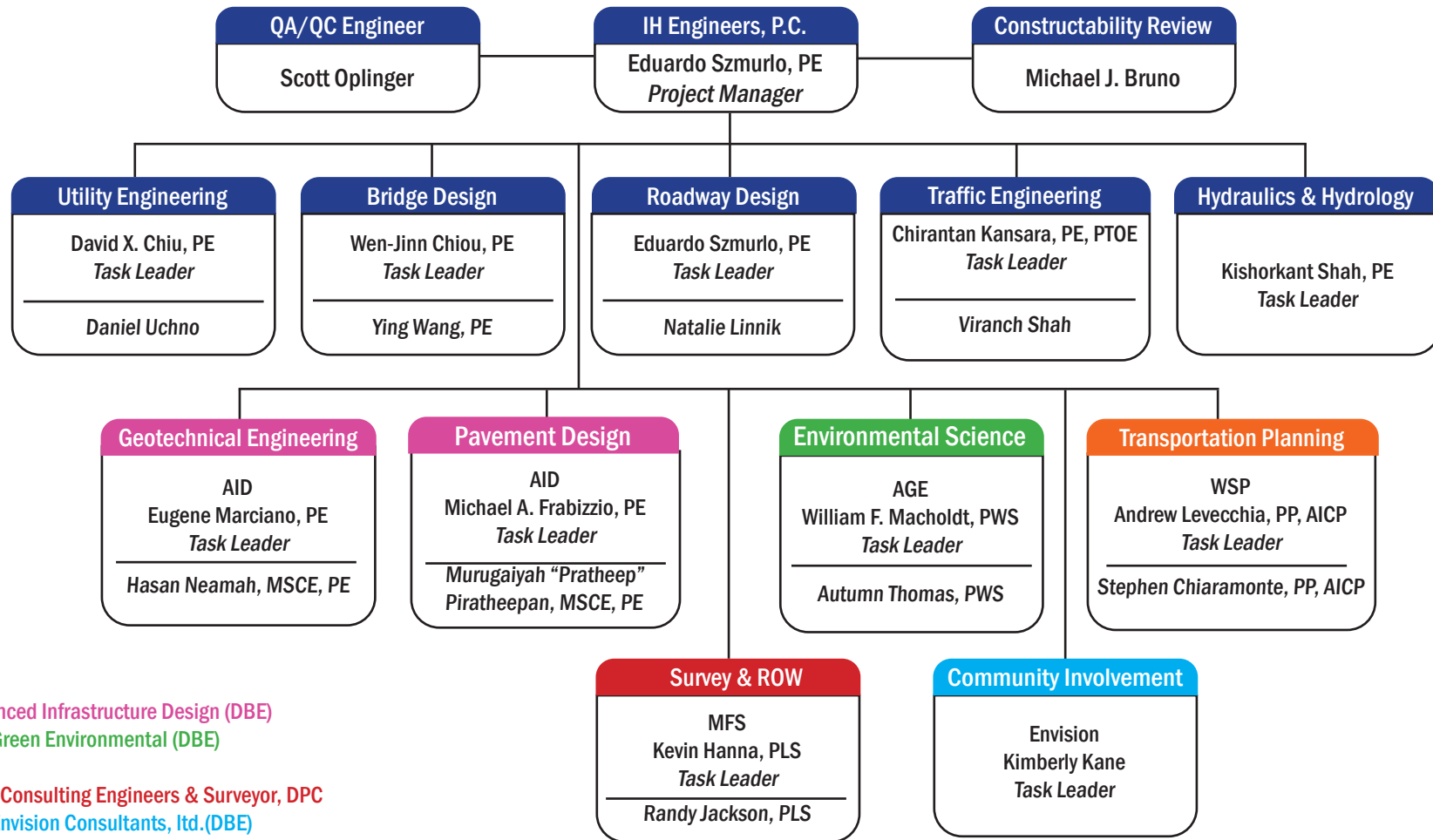
Construction Services

- o Construction Inspection
- o Construction Management
- o Constructability Review
- o Construction Scheduling
- o Document Control
- o Cost Estimating
- o Claims Analysis & Avoidance
- o Value Engineering

Bridge Inspection

- o Condition Inspection of All Types of Bridges and Culverts
- o Load Ratings

The Team That Delivers Successful Projects



Legend

AID – Advanced Infrastructure Design (DBE)

AGE- Amy Green Environmental (DBE)

WSP - WSP

MFS - MFS Consulting Engineers & Surveyor, DPC

Envision - Envision Consultants, Ltd.(DBE)



Eduardo Szmurlo, PE, Project Manager

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Mr. Szmurlo has more than 33 years of civil engineering experience in highway design, traffic engineering and construction management. As a project manager, he provided overall direction and concurrently managed a wide variety of multi-disciplined projects, featuring transportation, highways and bridge structures, drainage, stormwater and utilities. Mr. Szmurlo is familiar with procedures and design standards of several major agencies including the New Jersey Department of Transportation and numerous New Jersey counties. He planned, managed and overviewed projects of different sizes and in different environments while ensuring all project adheres to design and administrative standards established by the company and the client. He is familiar with the SRTS program and IH's SRTS projects, and has served on many projects where safety and accessibility were a focus in the design.

Representative Projects



NJDOT, Division of Local Aid and Economic Development, Safe Routes to Schools Design Assistance Program Various Townships throughout NJ

IH served as the prime consultant on this project. The scope of work included final design scope of services for Collingswood Borough intersection improvements and ADA compliant curb ramps, Chatham Township new ADA compliant curb ramps and sidewalks, River Edge Borough new ADA compliant curb ramps, and sidewalks, and Wharton Borough installation of new ADA Compliant curb ramps and sidewalk. The projects involved the design and administration of roadway reconstruction/resurfacing in the areas of crosswalks and signalized intersections (as required), ADA compliant facilities, traffic signals and utility relocations (as required). IH was also responsible for the Community Outreach Program including meetings with the local officials and Public Information Centers. Two projects are further highlighted below:

In River Edge Boro, NJ, IH investigated locations of street crossings, sidewalks, and walk path conditions from Kinderkamack Road to the borough border west of Kimberly Way. The project included determinations of the general locations of ADA ramp improvements, sidewalk extension, and pedestrian walk path limits and paving. IH designed a Pedestrian asphalt walk (Millbrook Road) connection between Wales Road and Woodland Avenue providing typical sections, pavement alignment and edge limit of asphalt walk on Millbrook Road. IH designed ADA compliant curb ramps and crosswalks at the intersections of Bogart Road and Wayne Avenue, Bogart Road and

Continental Avenue, Millbrook Road and Wales Avenue, Millbrook Road and Woodland Avenue and the installation of curb and sidewalk extension along the east side (northbound) of Kinderkamack Road. IH performed a topographic survey, conducted field meetings to identify and verify locations and type of improvement design, and performed preliminary engineering design including geometry layouts and typical sections. Final design was completed after review and approval by the local officials of the improvements.

In Chatham Townshp, NJ, the southeasterly side of Lafayette Avenue lacked ADA Compliant Sidewalks, Curb Ramps, and Cross Walks leading up to Chatham High School and Lafayette Middle School. IH designed improvements on Lafayette Avenue and Spring Street including sidewalks and curb ramps on Lafayette Avenue from Inwood Road to The Lafayette School entrance driveway. Cross walks were provided across Lafayette Avenue at Oak Drive and Chandler Road and all of the side streets. On Spring Street, the sidewalk and curb ramps extend from the Colony Pool and Tennis Center driveway to Lafayette Avenue. A crosswalk was provided across Spring Street at the Colony Pool and Tennis Center driveway and School Avenue. Utility pole relocations and tree removal required as part of the proposed work. IH led a public information center to review the proposed improvements and seek input.

Signalized Intersection Improvements at French and Paterson Street

City of New Brunswick, Middlesex County, NJ

IH served as the prime consultant for the design of improvements at the intersection of French Street and Paterson Street within the Robert Wood Johnson University Hospital area in the City of New Brunswick, Middlesex County. The scope of work included the development of contract plans and specifications for the improvement of pedestrian safety and ADA compliance, and replacement of traffic signals. The scope of work included Traffic Signal Design, Maintenance and Protection of Traffic (MPT) plans, design of Public Right-of-Way Accessibility Guidelines (PROWAG). The work also included ADA compliant ramps, drainage, coordination with NJDOT and local agencies, utility investigations and agreements, drainage calculations and design report, hazardous materials investigation, pavement design report, soil investigation and subsurface exploration report. Significant pedestrian volume was present at this intersection where the old curb ramps were not up to ADA compliance. To improve pedestrian safety, curb bump-outs were provided as a traffic calming measure and to reduce the distance pedestrians need to walk across the street. The ramps were designed to current ADA standards while staying within the available Right-of-Way (ROW). A detour was provided to prevent left and right turns onto Paterson Street to accommodate the construction of the improvements.

Representative Projects



Design of Four (4) Parking Lots

Various Townships, Middlesex County, NJ

IH served as the prime consultant for this project. The overall scope of work included providing professional engineering services for the development of contract plans and specifications for pavement testing, evaluation and reconstruction/resurfacing, upgrade of pedestrian paths and crosswalks, signage, and parking capacity. The scope also included drainage improvements, new islands, ADA compliant ramps, lighting, striping, and the preparation of staging/MPT plans. IH was responsible for the overall project management from concept through construction services. Soil borings were collected from all four (4) locations to determine pavement reconstruction or milling and resurfacing needs. The areas were surveyed and the borings located prior to Civil Design Services. The survey provided contours so that positive drainage can be developed and any new drainage facilities provided as required. Design of sidewalks as needed to improve pedestrian circulation through parking areas and adjacent amenities. Americans with Disabilities Act (ADA) compliant ramps, bicycle safe grates and Eco-friendly curb pieces were provided.



Somerset County, 2018, 2019, and 2021 Resurfacing and ADA Compliance Program

Somerset County, NJ

Served as the prime consultant to the Somerset County Engineering Division for these resurfacing and ADA compliance programs. As part of its yearly resurfacing program, Somerset County has instituted a policy of simultaneously upgrading all non-compliant curb ramps within the limits of the resurfaced roadways. IH was instrumental in the development of the inaugural version of this program in 2018 and was selected as the prime consultant for the 2019 and 2021 programs. The three programs required the development of plans and details, showing areas of full-depth pavement reconstruction, and signing and striping for over 70 miles of roadway at more than 50 different locations throughout Somerset County. In addition, 10-scale ADA curb ramp details were prepared for over 500 curb ramps. The scope included the upgrade of traffic signals at 11 county road intersections and the evaluation of the existing drainage, resulting in an inventory of drainage structures to be upgraded to current standards. The design and preparation of bid documents were completed in an extremely compressed time frame to meet the County's aggressive schedule. In addition to the design, IH provided Construction Support Services and certified that the newly constructed curb ramps were ADA Compliant.



River Road (CR 622) Bridge over Route 287 Superstructure Replacement

Piscataway, NJ

Serving as the prime consultant for the development of the River Road (CR 622) Bridge over Route 287 Superstructure Replacement project. The project construction reached substantial completion. Due to the poor condition of the deck and unacceptable vertical under-clearance, a superstructure replacement was required for this project which was constructed in three main stages. New supports were provided for the numerous utilities currently supported by the deck. IH performed the geometry design of the ramp intersection with River Road due to the bridge profile modifications. This design included the design and construction of sidewalks and pedestrian ramps. IH addressed ADA compliance and Bicycle Compatibility as required. IH performed an in-depth inspection of the abutments and piers and developed a testing program consisting of cores and laboratory testing to determine the existing condition of the substructure elements. IH also prepared an alternative analysis and made a recommendation to NJDOT for the rehabilitation of the substructure elements. IH provided Construction Support Services including shop drawing reviews, change of plans and requests for information.

Representative Projects



Bettlewood Ave. (CR 548) Roadway Improvements from Oaklawn Ave. to Collins Ave. (Rt 30)

Collingswood Corough & Oaklyn Borough, NJ

Serving as the prime consultant to the Camden County Engineering Division for the different design phases. Design plans are being developed to improve the roadway ride quality and safety for both pedestrians and drivers. The scope of work includes pavement milling and resurfacing and pavement reconstruction, including drainage system upgrades. The project also includes the construction of missing sidewalk sections and curb ramps and or reconstruction of existing curb ramps for compliance with the Americans with Disabilities Act (ADA). IH is responsible for the preparation of construction plans and contract documents for the upgrade of this 0.5-mile section of roadway. The design is being prepared in accordance with the NJDOT Standard Specifications for Road & Bridge Construction, NJDOT/AASHTO Roadway Design Manuals, MUTCD, NJDOT Standard Roadway and Bridge Construction and Traffic Control Details, Camden County Details, and Camden County “boilerplate” specifications. The existing drainage pipe system was CCTV inspected to determine sections that required replacement. Pavement testing was performed to investigate the pavement structure composition. Drainage structures were upgraded to provide bicycle-safe grates and eco-friendly curb pieces.



Mercer County Intersection Study (Contract B) Local Concept Development

Lawrence Township & Hopewell Township, Mercer County, NJ

Serving as the prime consultant for the concept development study of three signalized intersections:

1. Pennington-Lawrenceville Road (CR 546) at Federal City Road/Keefe Road (B1)
2. Pennington-Lawrenceville Road (CR 546) at Federal City Road/Stephenson Road (B2)
3. Pennington-Lawrenceville Road (CR 546/CR 632) at Blackwell Road (CR CR546/CR 632) (B3)

The project is sponsored by the DVRPC and NJDOT-Local Aid. The purpose of this project is to address safety and operational deficiencies for all road users, including motorized and non-motorized modes of transportation along the 1.6-mile segment of the Pennington-Lawrenceville Road (CR 546) in Mercer County. IH is responsible for the preparation and evaluation of three alternatives for each intersection inclusive of data collection and analysis, community outreach, preparation of construction cost estimates for each alternative and the evaluation matrix that will lead to the selection of the Proposed Preferred Alternative (PPA) for further development. The CD Report will include Concept Plans to be prepared in accordance with the NJDOT Standard Specifications for Road & Bridge Construction, NJDOT/AASHTO Roadway Design Manuals, MUTCD, NJDOT Standard Roadway.



General Traffic Engineering Services

Cape May County, NJ

Serving as the prime consultant for the concept development study of three signalized intersections: 1. Pennington-Lawrenceville Road (CR 546) at Federal City Road/Keefe Road (B1) 2. Pennington-Lawrenceville Road (CR 546) at Federal City Road/Stephenson Road (B2) 3. Pennington-Lawrenceville Road (CR 546/CR 632) at Blackwell Road (CR CR546/CR 632) (B3) The project is sponsored by the DVRPC and NJDOT-Local Aid. The purpose of this project is to address safety and operational deficiencies for all road users, including motorized and non-motorized modes of transportation along the 1.6-mile segment of the Pennington-Lawrenceville Road (CR 546) in Mercer County. IH is responsible for the preparation and evaluation of three alternatives for each intersection inclusive of data collection and analysis, community outreach, preparation of construction cost estimates for each alternative and the evaluation matrix that will lead to the selection of the Proposed Preferred Alternative (PPA) for further development. The CD Report will include Concept Plans to be prepared in accordance with the NJDOT Standard Specifications for Road & Bridge Construction, NJDOT/AASHTO Roadway Design Manuals, MUTCD, NJDOT Standard Roadway.