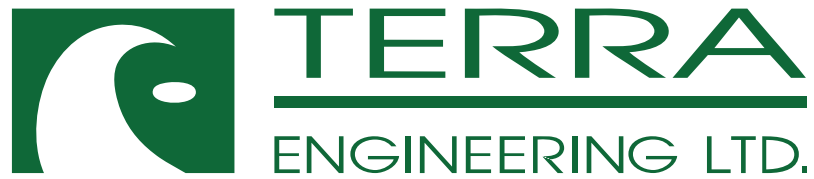


PROFESSIONAL ENGINEERING SERVICES
FOR DESIGN ENGINEERING (PHASE I & II) FOR THE
OAK PARK AVENUE
RESURFACING, UTILITY, AND STREETScape PROJECTS

JULY 1, 2019



TERRA
ENGINEERING LTD.



DESIGNWORKSHOP

a5
Branding
& Digital

LOCHNER



TABLE OF CONTENTS

- COVER LETTER - PAGE 3
- EXECUTIVE SUMMARY - PAGE 5
- CAPABILITIES AND RESOURCES / FIRM EXPERIENCE - PAGE 6
- RESUMES - PAGE 15
- PROJECT UNDERSTANDING AND APPROACH - PAGE 37
- DETAILED WORK PLAN - PAGE 47
- PROJECT SCHEDULE - PAGE 49
- RELEVANT EXPERIENCE - PAGE 67
- STATEMENT OF COMMITMENT / OBJECTIONS / FORMS AND CERTIFICATIONS - PAGE 93



July 1, 2019

Bill McKenna, P.E., Village Engineer
Engineering Division of the Public Works Department
Village of Oak Park
201 South Blvd.
Oak Park, IL 60302

Re: Oak Park Avenue Resurfacing, Utility, and Streetscape Projects

Dear Mr. McKenna:

Thank you for considering the **TERRA** team for your Oak Park Avenue corridor improvement plan. Our team of award-winning professionals, qualified in roadway and utility engineering, traffic operations analysis, landscape architecture, and streetscape planning and design will deliver a signature project tailored to Oak Park and its rich history and character. We are excited to assist you in making this project a success by applying our technical expertise and providing a public involvement plan that will engage participants with a flair.

TERRA is a woman-owned, full-service civil engineering firm with over 27 years of experience. We believe that our past successes in Oak Park in tandem with our thorough understanding of this Oak Park Avenue project will provide a significant advantage to you. We will hit the ground running with a cohesive team that fully understands the culture, objectives, and nuances inherent to the expectations for this project. We are local. We are proud to be an active part of this community. Our technical expertise and public involvement experience combined with our decades long working relationship with the Village, allow us to provide the service and attention to detail that no one else can match.

We appreciate the scrutiny that often comes with spending public dollars on a project like this one. We understand the need to be respectful and responsive to local taxpayers and appreciate the responsibility you have in investing the Village's resources wisely. We understand that there is a special responsibility that comes with an invitation to team with you. We take that responsibility seriously and will work tirelessly with you to find the right solutions for the community.

You will benefit directly from the personal attention provided by **Dustin Erickson, P.E., CFM**, our Project Manager. We have teamed with **Design Workshop** who brings national experience to the Streetscape Phase I design, **a5** and **John Harris**, a local resident who will guide the public relations and engagement work, **Lochner** who brings their experience with increasing vertical clearance at the UP Railroad gained from recent work at Harlem Avenue along with their environmental expertise, and **Chicago Testing Laboratory** who brings geotechnical and pavement testing services.

TERRA welcomes the opportunity to further discuss this Oak Park Avenue corridor improvement plan with you. We are dedicated to providing an innovative approach for implementing the utility, roadway, and streetscape enhancements that will be enjoyed by all.

Sincerely,

TERRA ENGINEERING LTD.

Jamil Bou-Saab, P.E.
Executive Vice President





EXECUTIVE SUMMARY

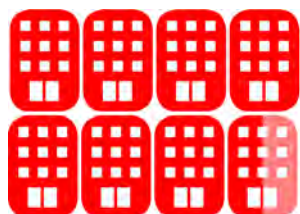
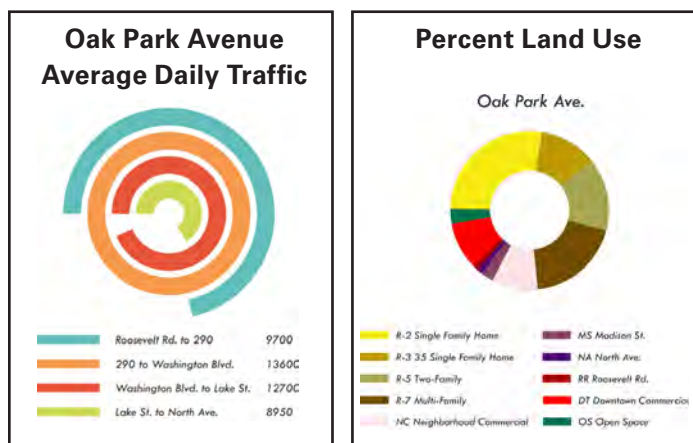
The Village of Oak Park has rich history, character and unique architectural heritage that is widely respected and admired. Oak Park and its commercial areas, parks and cultural attractions draw many visitors from throughout the Chicago region and beyond. But it is also the community's downtown areas, shops, and streets that entice many people to live in and visit Oak Park.

As a main north-south thoroughfare in the Village, Oak Park Avenue serves multiple functions, that of a main transportation corridor providing access to businesses and residential areas while accommodating a variety of users including pedestrians, bicyclists, buses and automobiles. Oak Park Avenue has been identified for improvements including roadway resurfacing, water and sewer upgrades, intersection safety improvements and an important streetscape plan for the Hemingway Business District.

The current condition of the roadway and commercial districts throughout Oak Park Avenue have, over time and use, fallen into a condition requiring improvement, upgrades and enhancement. The Village has identified a number of areas along Oak Park Avenue in need of general roadway resurfacing, locations for water and sewer upgrades and key intersections for traffic and circulation improvements. The Village has also identified the Hemingway Business District as a primary design objective to begin reimagining the possibilities for this key business area located in the heart of the community, and what it can become.

The TERRA Team will leverage our thorough understanding of existing conditions, improvement needs, and engineering challenges and opportunities. We will use this knowledge to expedite our work efforts with the streetscape design allowing our team to quickly begin engaging stakeholders and focus on design alternatives that will guide the improvements of Oak Park Avenue.

There are several traffic and transportation-related items to be accommodated and considered throughout the scope of the project. One will be the evaluation and recommendation of potential geometric upgrades at both the Washington Boulevard and Randolph Street intersections with Oak Park Avenue. Another geometric consideration will be the potential to lower the profile of Oak Park Avenue under the Union Pacific Railroad viaduct while addressing the sidewalk elevations adjacent to businesses along both North Boulevard and South Boulevard. Finally, in keeping with the character and walkability of Oak Park, it would be expected that the traffic engineering scope would consider pedestrian and bicycle enhancements and upgrades to improve accessibility for all users while also improving neighborhood aesthetics.



7.5%
Oak Park
Commercial
Vacancy Rate



CAPABILITIES AND RESOURCES
FIRM EXPERIENCE



TERRA Understands Oak Park

TERRA's Executive Vice President, Jamil Bou-Saab, is a long-time resident of the Village of Oak Park. He is actively involved in the community and understands the needs and challenges facing the Village. He is strongly invested in delivering innovative solutions to the community.

TERRA is a multi-disciplinary professional service firm, that utilizes our experience, intellect, passion, and diversity to serve our clients. Since 1992, our portfolio has evolved to include local, national, and global projects ranging in both type and scale. We approach our work from a foundation of comprehensive expertise and resources, allowing our disciplines to collaborate and create intelligently designed, thoughtful, site-specific solutions that skillfully balance aesthetic with function. We are dedicated to making our clients successful, and to enable our clients and staff to make innovative and socially responsible decisions that result in a sustainable and effective design.

Our Services

- **Site Development**
- **Municipal Engineering**
- **Landscape Architecture**
- **Structural Engineering**
- **Bridge Inspections**
- **Geographic Information Systems (GIS)**
- **Surveying**
- **Traffic Engineering/ Studies**
- **Land Acquisition**
- **Construction Engineering**
- **Land Use Planning**
- **Transportation Engineering**



TERRA

ENGINEERING LTD.

About TERRA

Our Mission

Our mission is to become the professional service firm of choice by empowering our employees to be innovative and socially responsible while achieving sustainable and profitable growth.

Our People

TERRA is an Equal Opportunity Employer with a staff of more than 80 employees of diverse ethnicities and backgrounds, including; Professional Engineers, Professional Traffic Operations Engineer, Structural Engineers, Professional Land Surveyors, Landscape Architects, GIS Analysts and LEED Accredited Professionals.

Certifications

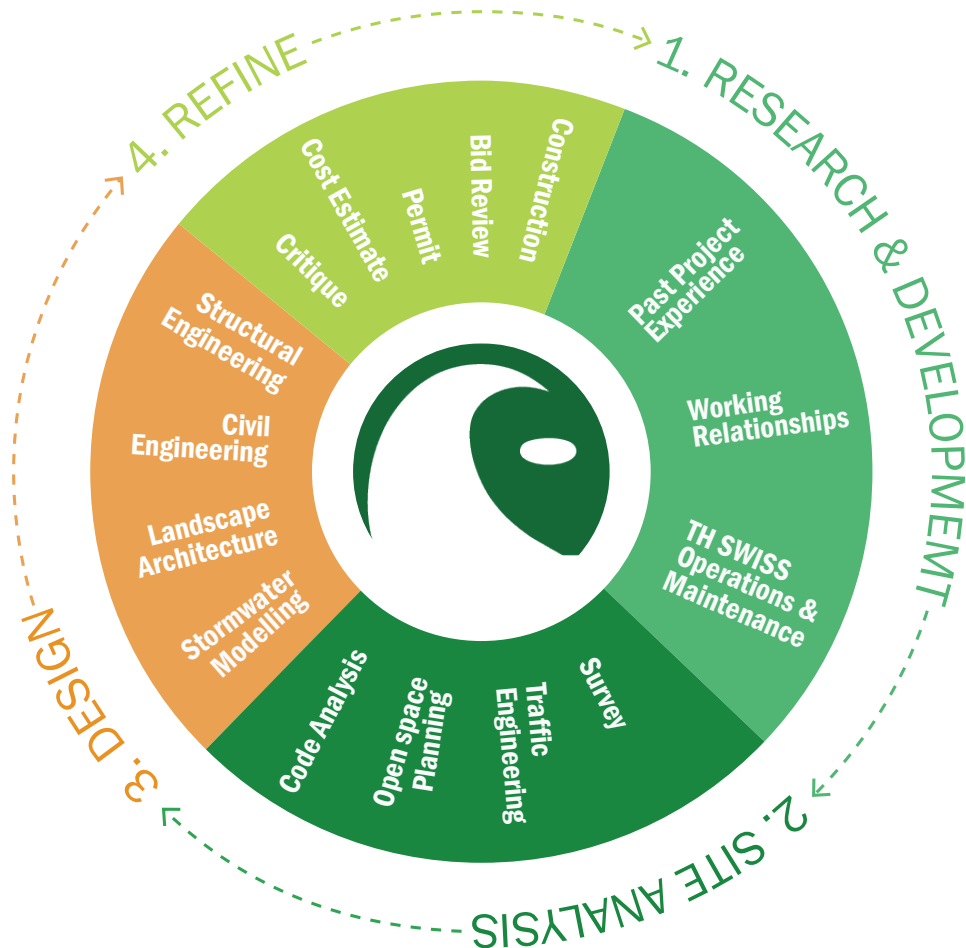
TERRA is certified through more than a dozen agencies, and is a recognized WBE-certified company. Please contact us for more information regarding our various certifications.

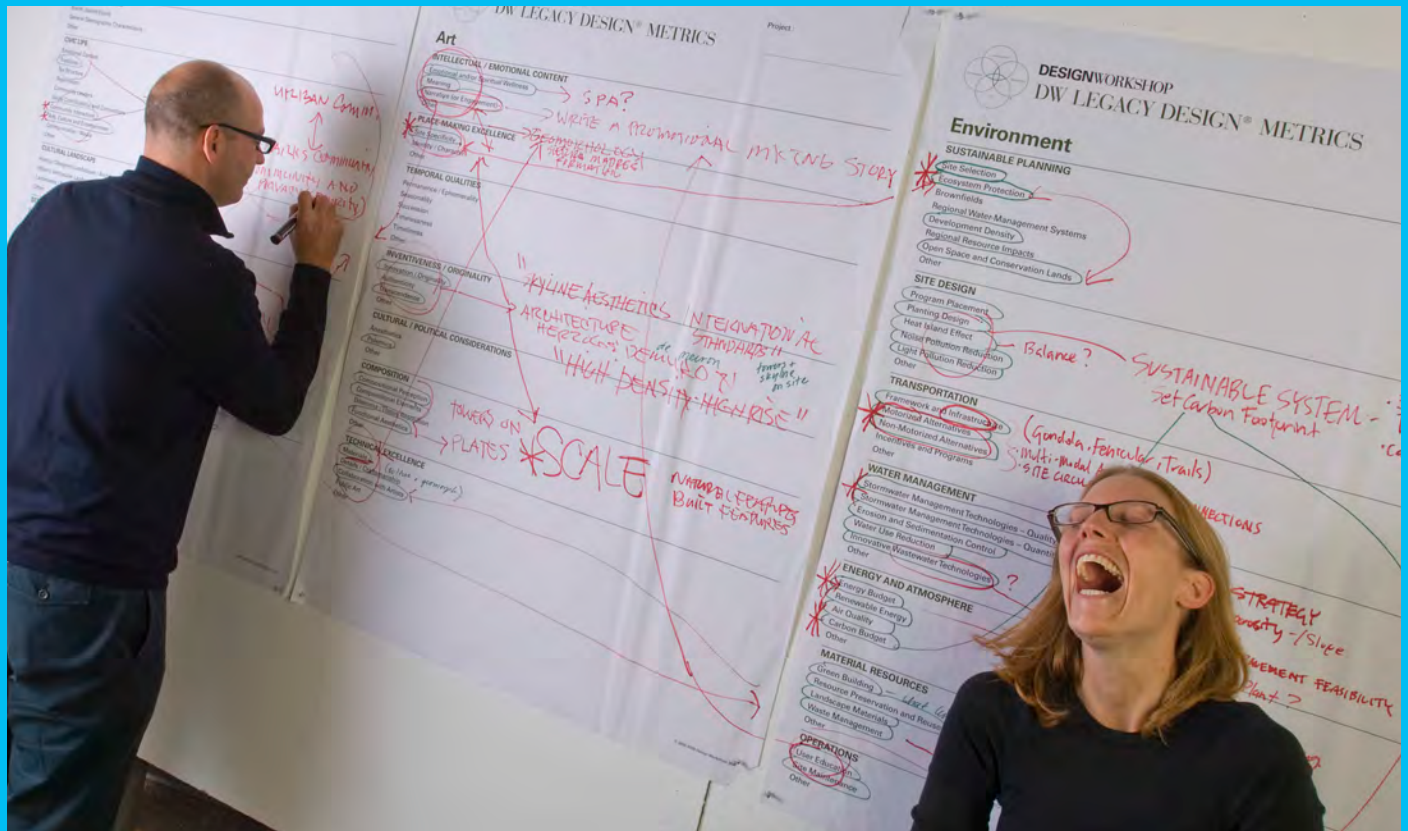
TERRA IN NUMBERS

89 
PEOPLE
WORKING AS
A TEAM

27 
SUCCESSFUL
YEARS OF
ACHIEVEMENT

34 
PROFESSIONAL
LICENSES





Design Workshop is dedicated to creating Legacy projects for our clients, society, and the well-being of our planet.

Design Workshop is an international design studio integrating the fields of landscape architecture, urban design, planning, economics and engagement. Since the first 'Workshop' in 1969, the firm continues to innovate with each generation, informed by changing economic context and the natural systems impacting our communities.

A community of designers, landscape architects, planners and strategists, we share a deep commitment to improving social equity and environmental justice through design.

As our methods evolve in response to new, complex challenges, our conviction to value-based design remains constant.

We design for people – not just today but for future generations. Whether designing a private garden, a campus within a fragile ecosystem, or developing the vision for a 21st century park, we strive to foster connections between people while creating meaningful, distinctive places.

DESIGNWORKSHOP

Our Legacy

In the changing world in which we live, achieving a balance of resiliency and stewardship remain central to our work. Our approach includes four guiding elements-- Environment, Community, Art, and Economics. We call this process DW Legacy Design®.

Environment

We are stewards of the environment and champions for a sustainable future.

Community

An inclusive engagement process is critical to (re) building the social fabric of the community.

Economics

Projects must be financially sustainable to last generations. We need to consider market reality and return on investment.

Art

Art is an integral part of the human experience; it challenges assumptions and provokes thought while revealing beauty and meaning.



DW Legacy Design®

360+
DESIGN +
PLANNING AWARDS

DW Foundation

We are dedicated to giving back to our communities. We have established the DW Foundation, which offers time and materials to select community projects.

13

Precedent
DW Projects
published by
the Landscape
Architecture
Foundation

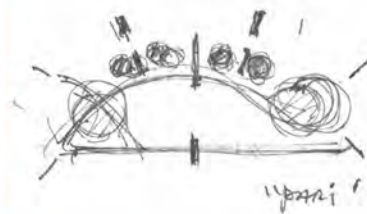
Projects in
30+
countries.

7

STUDIOS
WITHIN THE U.S.

THE WORKSHOP

WE SKETCH.
WE MAKE MODELS.
WE BUILD PROTOTYPES.

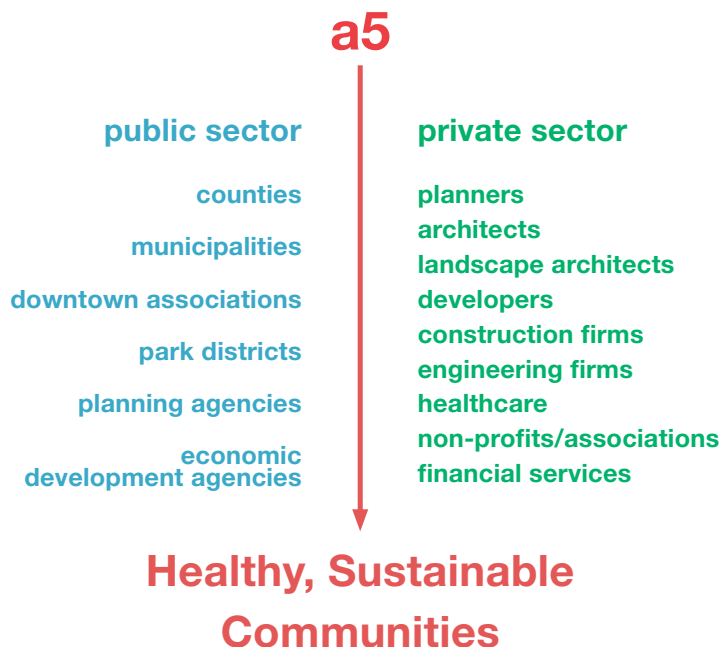


a5 Branding & Digital

a5 is a branding and digital consultancy that tells client stories in a clear, concise, consistent and compelling manner – to get results.

From branding to outreach and engagement to public relations, events and experiences, a5 brings together the public and private sectors to create healthy, sustainable communities.

We work by a simple philosophy: to deliver great work that gets you where you want to go, and we do it on time and on budget.



a5 works with public and private sector clients to help build healthy, sustainable communities.

a5 Services

Branding

Market Research

Public Outreach & Engagement

Brand and Marketing Strategy

Positioning

Tagline Creation

Naming (Company & Product)

Marketing Plans

Product Launches

Content Development/Copywriting

Photography/Illustration Sourcing

Photography/Illustration Art Direction

PR

News Releases

Feature Stories

Media Training

Crisis Communications

Graphic Identity Creation

Logos/Graphic Identities

Identity Applications

Advertising

Creative

Print

Broadcast

Radio

Outdoor

Media Planning

Media Buys

Print/Other Support Materials

Brochures

Direct Mail

Catalogs

Magazines

Newsletters

Packaging

Signage and Banner Systems

Digital

Web Design

Bespoke Web Development

User Experience

Content Development/Copywriting

Content Management Solutions

Content Management Training

Intranets/Extranets

Video

Preproduction

Scripting/Writing

Casting

Location Scout Management

Storyboarding

Art Direction

Interviews

Production/Shooting

Editing/Post-production

Motion Graphics

Social Media Campaigns

Social Media Plans

Social Media content for Facebook, Twitter,
Instagram, Pinterest and LinkedIn

Digital Advertising

Email Campaigns

Google AdWords

Search Engine Optimization



LOCHNER



A Legacy of Trust, Collaboration and Innovation

Founded in 1944, Lochner provides planning, environmental, design, construction engineering and inspection, and right of way services for surface transportation, rail, transit, and aviation clients across the United States.

Markets



**Surface
Transportation**



Rail & Transit



Aviation



Planning



Environmental



Design



**Construction
Engineering &
Inspection**



Alternative Delivery



Right of Way



Summary of Qualifications

Since 1912, Chicago Testing Laboratory, Inc. has been a professional engineering consulting firm actively engaged in the testing, training, inspection, research, and consulting of construction related materials. CTL continues to maintain its reputation as a leader in the field of materials testing and inspection and has been retained by public agencies and private corporates worldwide for our analysis, testing expertise, and cost-effective design and construction recommendations, provided in a timely manner that meets our clients' expectations.

Chicago Testing Laboratory:

- Is a professional engineering firm in the State of Illinois, prequalified by the Illinois Department of Transportation (IDOT) in: Quality Assurance (PCC, HMA, and Aggregates), Geotechnical Engineering (Structures Geotechnical Reports, Roadway Geotechnical Reports, General Geotechnical Services, and Subsurface Exploration) and Construction Inspection
- Has provided construction and materials expertise on thousands of projects in the Chicago and Indianapolis metro areas
- Completed numerous prime contracts with IDOT for quality assurance of materials and bituminous mix designs totaling over 50,000 personnel hours
- Has served as a sub consultant to numerous prime consultants on IDOT and Illinois State Toll Highway Authority (ISTHA) projects and has provided materials testing and inspection for various villages, municipalities, and counties. Currently a geotechnical subconsultant for ISTHA on the Tri-State, CTL has been providing QA reviews on numerous Structure and Roadway Geotechnical Reports prepared by other consultants.
- Provides construction materials training to agency, contractor and consultant personnel throughout Illinois and the United States

CTL is committed to the principles of quality, from design through the construction of pavement structures. With our independent locations, CTL strives to:

- *Ensure customer satisfaction through meaningful process control*
- *Maintain a high level of Total Quality Management*
- *Maximize the quality and serviceability of today's construction projects*

CTL has three full service laboratories – Our Warrenville, Thornton, and Joliet, Illinois locations are all IDOT-approved. CTL's central laboratory is AMRL and ASTM accredited, and staffed with IDOT/INDOT Certified Technicians. CTL strives for successful completion of all projects by providing well-qualified personnel to furnish superior quality testing while maintaining a fast turnaround on all analysis and reporting.

CTL teaches and develops materials testing training programs – Including the IDOT QC/QA certification training courses. CTL has taught numerous national courses for different state, local, and federal agencies on the proper use and testing of construction materials. Not only are CTL technicians QC/QA certified, but many are also IDOT QC/QA instructors. CTL is proud to have given back to our industry by training our peers over the last two decades.

CTL research activities have resulted in ASTM and other test specifications – Including Abson asphalt recovery test (ASTM D 1856) and the Root-Tunnicliff method for evaluating stripping of asphalt mixtures (ASTM D 4867). Numerous other special tests and equipment have been developed by CTL in connection with special investigations and research studies for various clients and technical societies.



Education

Master of Science in Construction Management, Marquette University, Milwaukee, WI, 1986

Bachelor of Science in Civil Engineering, Marquette University, Milwaukee, WI, 1984

Licensure and Certifications

IL Professional Engineer,
1992 – 062.047537

WI Professional Engineer,
1992 - 28425-6

Professional Affiliations

Facilities Committee of the Board of Education, District 97, Village of Oak Park, Chairman

Technology Subcommittee of IDOT/
American Council of Engineering Companies, Region 1, Chairman

The Science Advisory Committee,
Carthage College, Wisconsin,
Member

Peoria Sustainability Commission,
Member

American Public Works Association,
Member

American Society of Civil Engineers,
Member

Innovative Conference on Asphalt and
Transportation, Committee Member

Citizen Council of Oak Park River
Forest High School, Member

Children's Hospital of University of
Illinois – Chicago, Board Member

Jamil Bou-Saab

PROJECT DIRECTOR, PE

Mr. Bou-Saab offers more than 30 years of professional experience as project engineer, project manager, and as business owner. He has provided leadership in the design and management of infrastructure for municipal capital improvements, highway and traffic improvements and site development projects. Mr. Bou-Saab has overseen the development of massive infrastructure projects, streetscape improvements, bicycle and pedestrian paths, riverfront sites, and parks.

Marion Street Streetscape – Oak Park, IL

The complete streetscape overhaul of several blocks of Marion Street required extensive coordination with all utilities, Chicago Transit Authority, Pace Bus, Union Pacific Railway, Metra, and the Village of Oak Park. This project was completed on time with an aggressive schedule.

Roosevelt Road Streetscape – Oak Park, IL

TERRA assisted in shaping the concept and focus of the project along the state highway bordering the communities. Prepared the Project Development Report while simultaneously preparing the design documents for the work. The project involved the replacement of 1.5 miles of curb; sidewalk and driveway reconstruction; storm sewer; variable HMA pavement milling and resurfacing; streetlight removal and replacement; temporary traffic signals; and construction of streetscape amenities such as ornamental lighting, planters and trees.

Hyde Park Streetscape – Chicago, IL

Responsible for working with the University of Chicago to develop conceptual streetscape improvements and order of magnitude cost for five streets within and around the University of Chicago main campus. Conceptual designs focused on the University and Chicago Department of Transportation's (CDOT) desire to incorporate the principles of "Complete Streets" and CDOT's new "Sustainable Infrastructure Design Guidelines and Policies".

Downtown Plan – Carbondale, IL

Development of a master plan for the revitalization of Downtown Carbondale. Designs include improved parking facilities, streetscape enhancements to improve overall appearance, improved sidewalks and roadways, and the implementation of bicycle and pedestrian traffic safety measures.

**Education**

Bachelor of Science in Civil Engineering, University of Illinois at Urbana-Champaign, IL, 2001

Licensure and Certifications

IL Professional Engineer,
2006 – 062.059112

Certified Floodplain Manager,
2018 – IL-18-00825

Professional Affiliations

Association of State Floodplain Managers (ASFPM)

Illinois Association of Floodplain and Stormwater Management (IAFSM)

Dustin Erickson

PROJECT MANAGER, PE, CFM

As Project Manager, Mr. Erickson works with clients, design professionals, and governmental agencies on municipal projects from schematic design through permitting and construction. His work experience in design and construction includes streetscape, bicycle paths, residential, commercial, municipal, and institutional projects.

Oak Park Avenue – Oak Park, IL

The streetscape of several blocks of Oak Park Avenue required considerable coordination with all utilities, including Chicago Transit Authority, Pace Bus, Union Pacific Railway, Metra, and the Village of Oak Park. In addition to streetscape construction, the project also removed and replaced combined sewer mains and water main.

Marion Street Streetscape – Oak Park, IL

The complete streetscape overhaul of several blocks of Marion Street included a granite curb and gutter with individually laid brick street. The project required extensive utility coordination, and was completed on time on an aggressive schedule with preliminary design beginning in January in 2011, groundbreaking in early June 2011, and ribbon cutting in December 2011.

Roosevelt Road Streetscape – Oak Park, Berwyn & Cicero, IL

TERRA assisted in shaping the concept and focus of the project along the state highway bordering the communities. Prepared the Project Development Report while simultaneously preparing the design documents for the work. The project involved the replacement of 1.5 miles of curb; sidewalk and driveway reconstruction; storm sewer; variable HMA pavement milling and resurfacing; streetlight removal and replacement; temporary traffic signals; and construction of streetscape amenities such as ornamental lighting, planters and trees.

Downtown Streetscape – Elmwood, IL

Mr. Erickson served as senior project engineer for this downtown revitalization project. His responsibilities included Phase I CE-II Project Development Report (PDR), Phase I demolition, grading, and utility design. Phase II demolition, grading, and utility drawings are currently in the design phase.



Education

Bachelor of Landscape Architecture,
1989 Iowa State University

A.S. Architectural Construction
Technology, 1985 Illinois Central
College

Licensure and Certifications

Illinois, #157-000150 (1991)

Wisconsin, #742-14 (2017)

Missouri, #2017022295 (2017)

Kansas, #897 (2018)

Indiana, #LA21900010 (2019)

Council of Landscape Architectural
Registration Boards, #40403

Professional Affiliations

American Society
of Landscape Architects

Illinois Chapter American Society of
Landscape Architects Past President

Keven Graham

SENIOR LANDSCAPE ARCHITECT, FASLA, PLA, CLARB

Keven has more than 25 years of experience in the enhancement and revitalization of parks and public spaces, including the preparation of final design and construction documents. He is a past president of the Illinois Chapter of the American Society of Landscape Architects and actively involved in the creation of environmentally sustainable design solutions for site development.

Consulting Landscape Architect – Glen Ellyn, IL | Provided ongoing landscape architectural design guidance for the Village of Glen Ellyn. In this role Keven provided landscape review and forestry review for development projects. He also provide design services for the landscape and urban design of State Route 38 (Roosevelt Rd.). The design implementation included new street lighting, decorative pavers and wayfinding signage. Keven also provided landscape architectural designs for the new Police headquarters focusing on sustainable stormwater solutions and the Village Links Golf Course new clubhouse and outdoor dining plaza.

Downtown Planning – Wheaton, IL | Assisted Design Workshop with the planning and public engagement for Wheaton's downtown master plan. Researched and developed performance metrics for the master plan and evaluated level of investment for different streetscape design elements. Keven is also a past president of the Downtown Wheaton Business Association.

Downtown Zoning Overlay – Hinsdale, IL | Directed the planning study to update the Downtown business district zoning and land use plan.

Streetscape Enhancement – Frankfort, IL | Prepared landscape master plan for the Village downtown business district highlighting ornamental plantings for streetscape areas, outdoor dining and central park.

Downtown Master Plan – Oswego, IL | Prepared the master plan for the downtown business district including economic study and architectural design guidelines. Prepare implementation plans for streetscape enhancement. Designed and oversaw the construction of the Village's Veterans Memorial Plaza.



Education

Bachelor of Science in Civil Engineering, Purdue University, West Lafayette, IN, 2013

Licensure and Certifications

Professional Engineer, IL 062.069948

Professional Affiliations

Purdue Society of Women Engineers, 2008 - 2013

Katherine Kenefake

TEAM LEAD, PE

Katherine's responsibilities include calculations related to stormwater management, design of storm sewers, site and roadway grading, utility design, cost estimates, production of construction documents, permitting and construction observation. Site development projects include planning, design and production of construction documents for sites, such as commercial developments, schools, office and industrial parks.

School District #97 Administration Building – Oak Park, IL | The D97 Administration building will be a two-story office building for District 97 staff that will include an at-grade parking area with surrounding landscape. Site design to accommodate required amount of parking spaces. Coordination of all utilities including electrical conduits, plumbing, and irrigation lines. Engineer minor stormwater systems by calculating sewer capacities.

School District #97 Holmes ES Addition – Oak Park, IL | Site design, stormwater management and permitting through Metropolitan Water Reclamation District of Greater Chicago (MWRDGC) and Village of Oak Park for two building additions to the existing elementary school located in Oak Park. Retention requirement was met within the drainage stone base of proposed permeable rubber surfaces which incorporated outdoor learning space for students.

School District #97 Lincoln ES Addition – Oak Park, IL | Site design, stormwater management and permitting through MWRDGC and Village of Oak Park for two building additions to the existing elementary school located in Oak Park. Project challenges included a high groundwater table while still required to provide detention and volume control for all disturbed areas. Project was met with success with implementation of economically efficient stormwater management systems.

School District #97 Longfellow ES Addition – Oak Park, IL | Site design, stormwater management and permitting through MWRDGC and Village of Oak Park for a building addition to the existing elementary school located in Oak Park. Project challenges included a high groundwater table while still required to provide detention and volume control for all disturbed areas.



Education

Bachelor of Science in Civil Engineering, Valparaiso University, Valparaiso, IN, 1980

Licensure and Certifications

Professional Engineer, IL – 1985 – 062-042363

Professional Affiliations

Member, Board of Local Improvements, Village of Arlington Heights

Illinois Association of Highway Engineers

Board Member, Trails for Illinois

David Landeweer

TEAM LEAD, PE, ENV SP

Mr. Landeweer is responsible for the preparation of engineering plans and specifications, project reports and other work related to transportation design and site development work. His experience includes all phases of transportation and site engineering, including preliminary and conceptual engineering and phase II plan preparation. His transportation experience includes engineering design for local roads and streets, arterial roadways, and expressways. He also has extensive experience in bicycle path design.

Downtown Revitalization – Clarendon Hills, IL

Assisting with the downtown master plan and receiving a grant from the RTA under Access to Transit Program. Master plan details include improvements along Prospect Avenue and the rail road crossing, as well as reconfiguration of Golf Avenue and Burlington Avenue intersection. TERRA also provided civil engineering services for the development of the new Metra station in the area.

Depot District Streetscape – Berwyn, IL

Project Manager for the preparation of a Phase I Project Development Report and Phase II Plans, Specifications, and Estimates for the construction of a streetscape improvement along Stanley Avenue and Windsor Avenue between Harlem Avenue and Ridgeland Avenue and along Oak Park Avenue between 31st Street and Ogden Avenue within the historic Depot District of the City of Berwyn.

Washington & Wisconsin Signal Installation – Oak Park, IL

Project Manager for the preparation of Phase II Plans, Specifications, and Estimates for the installation of a new traffic signal at the intersection of Washington Boulevard and Wisconsin Avenue for the Village of Oak Park. The existing intersection consisted of a two-way stop-controlled intersection on Wisconsin Avenue.



David Albers

SENIOR PROJECT ENGINEER, PE

With more than 40 years of civil transportation engineering experience, Mr. Albers has demonstrated innovative accomplishments in the areas of municipal and project management, transportation planning and design, stormwater management, utility systems engineering, value planning and engineering, land development, and facilities planning and design. He possesses astute perceptive insight and discernment crucial to effective quality assurance/quality control and strategic or project planning.



Alex Heidtke

PROJECT ENGINEER, PE

Ms. Heidtke has five years of experience in residential, commercial, institutional, and municipal site development with a focus on green infrastructure design such as green streets retrofits, municipal flood mitigation projects, and green schools initiatives. Her experience includes the production of construction documents, permit submittals, stormwater management reports, hydrologic modeling, green infrastructure analysis and design, and rainwater harvesting.



Jason Heinekamp

PROJECT ENGINEER, PE

Jason is a project engineer who has been with TERRA for three years. He has designed or overseen the construction of a wide array of projects in various rural and urban environments. Throughout his career in the field, he has managed complex projects and accelerated schedules. Coupled with his technical training, Jason now incorporates his field experience into planning and design and offers key insights towards constructability. Jason has participated in technical training courses relating to construction materials, erosion and sediment control, bridge construction, Phase 1 design and CAD modeling.



Alexander Badaoui

PROJECT ENGINEER, PE

Alexander has more than 12 years' experience in civil infrastructure design valuing more than \$15 billion in construction value. Alex is a specialist in the development of 3D designs of transportation geometry and complex utility designs for power stations to be used in design-development and construction in major Design-Build and Design-Bid-Build projects. His expertise includes several design software packages including MX Road, InRoads, Geopak, Openroads, Microstation, AVEVA Plant Design Management System, AutoCAD and Civil 3D. He is a proficient programmer in multiple programming languages with proficiency in Microsoft Visual Basic VBA. He is adept at coordinating between all disciplines during design development, leading geometric roadway design, utility coordination, plan production lead, and optimization of design.



Bernard Bolanowski

PROJECT ENGINEER

As a Transportation Engineer, Bernard's responsibilities include performing design and engineering tasks related to various aspects of transportation engineering. Included is preparation of design plans for local street and expressway improvements. Bernard's experience in civil engineering is vast and varied as he has worked in various aspects of the field, including Geotechnical, Environmental, Construction, and Facilities. He is experienced in coordination and supervision of geotechnical drilling services and producing geotechnical reports; performing site assessments (ESA) of commercial, industrial and residential properties; supervising material testing and general construction activities related to mass grading, footings, foundations, concrete, asphalt and structural steel placement; as well as working on couple major projects with large portfolios to assess facilities for the ADA compliance.



M. Chris Hutchinson

PROJECT TRAFFIC ENGINEER, PE, PTOE

Mr. Hutchinson has acquired more than 19 years of experience in providing civil and traffic engineering services for a variety of projects and clients. As a Professional Traffic Operations Engineer, Chris has certification in the specialized application of traffic operations engineering. His experience includes serving as the traffic engineer on numerous roadway from small individual sites through large scale and complex neighborhoods and corridors for both public and private clients. His design duties have included the traffic modeling and analysis, traffic signal design, and development of plans and specifications for major roadway projects.



Colin Coad

TRAFFIC ENGINEER, PE, PTOE, VMA

Colin specializes in the design of Phase I and Phase II transportation projects. He has 12 years of experience in roadway geometrics, traffic analysis, traffic signal design, environmental processes/documentation and preparing Project Development Reports on State, County and Municipal transportation projects with both local and federal funding. He also has experience in maintenance of traffic, utilities and drainage design. He has mastered various software programs including Highway Capacity Software, Synchro/SimTraffic, MicroStation and GeoPAK. When planning projects, Colin pulls from his Value Engineering training to develop creative solutions to engineering challenges, with high-value results.



Jennifer Draper

LANDSCAPE ARCHITECT, PLA, ASLA, LEED AP

With experience in both Chicago and London, Jennifer's versatile and wide-ranging background allows her to shift between the boundaries of planning, urban design and landscape architecture. Maintaining a strong ecological focus, she strives to work with the landscape and its context to generate innovative solutions to the problems within the urban environment. Jennifer's specialisms include pedestrian-orientated developments, amenity roof decks, educational spaces, and native planting.



Will Prescott

LANDSCAPE DESIGNER

Mr. Will Prescott has a strong background in site analysis, master planning, and digital modeling and rendering. Projects that Will has been involved with include urban streetscapes, institutional, educational, commercial, industrial highways, and government projects, as well as assisting in TERRA's marketing efforts. He is an adept designer with a strong sensibility for the client's needs.



Selena Hilton-Aragon

GIS ANALYST

Selena is a GIS Specialist with more than six years of experience in location management and analysis. Selena has specialized skills in data analysis, project management, internal and external partner communication, establishing and maintaining timelines, scheduling, and attention to detail. At TERRA, she performs extensive data entry into Geographic Information System which she analyses for anomalies and accuracy. She has a degree in the utilization of ArcGIS and has almost a decade of experience working within the software's platforms.

DESIGNWORKSHOP



Education

PhD, Edinburgh College of Art

Master of Business Administration
in Real Estate, Southern Methodist
University

Bachelor of Landscape Architecture,
Louisiana State University

Licensure and Certifications

Licensed Landscape Architect:
Alabama, Colorado, Louisiana,
Nebraska, New Mexico, South
Carolina, Virginia

American Institute of Certified
Planners

CDT Certification

LEED®AP

Professional Affiliations

American Society of Landscape
Architects

Fellow American Planning Association

Fellow National Trust for Historic
Preservation

Urban Land Institute

University Development & Innovation
Council

Forum for Urban Design

Fellow World Presidents' Organization

Kurt Culbertson

PRINCIPAL-IN-CHARGE, FASLA, AICP, LEED®AP

Chairman and Principal of Design Workshop, Kurt Culbertson has been instrumental in the company's success both nationally and internationally for over 30 years. Mr. Culbertson has been involved in planning and development projects throughout North and South America, Asia, Europe and the Middle East. He is currently overseeing a variety of comprehensive plans, complete streets, open spaces, parks and greenway projects - including the Northwest Detroit Neighborhood Plan and Lafitte Greenway Park Master Plan & Design in New Orleans. With a background in landscape architecture, planning and real estate, Kurt has lead a diverse range of projects from large scale strategic planning, corridor planning and tourism planning to detailed design of parks and streetscapes.

Selected Project Experience

South Grand Great Streets – St. Louis, MO

The goal was to center communities around lively streets that safely serve all modes of transportation – before the volume and speed of traffic moving through the corridor challenged the economic vitality and safety of the district.

Manchester Road Great Streets – St. Louis, MO

A number of redevelopment and implementation strategies were created for the corridor, including the establishment of business improvement districts, a corridor-wide development authority, and a variety of public finance strategies to encourage redevelopment.

Wheaton Downtown Streetscape and Master Plan – Wheaton, IL

Kurt served as principal-in-charge on the development of the downtown Wheaton, Illinois' streetscape and strategic master plan.

Lincoln P Street Retail Corridor MP – Lincoln, NE

This master plan included an extensive public outreach effort including public meetings and an online forum for comments to develop suggestions for transit solutions, public art programs, building setbacks and first floor landuse, retail development strategies, open space creation, and pedestrian realm detail design.

DESIGNWORKSHOP



Education

Masters of Urban and Regional Planning, University of Illinois at Urbana-Champaign.

Bachelors of Landscape Architecture, University of Illinois at Urbana-Champaign

Licensure

Registered Landscape Architect: Illinois 157.001518

American Institute of Certified Planners

Certification

LEED® Accredited Professional

Construction Documents Technologist

"Leadership Strategies: The Effective Facilitator"

National Charrette Institute Charrette System Workshop

Publications

Contributor: "Design as Democracy: Techniques for Collective Creativity", 2017

"Really Complete Streets – Let's make room for parks and recreation in the right of way." Planning, October 2014

"Getting your Numbers in a Row: How to use the proforma as a tool for economic development", APA Magazine, November 2013

Sara Egan

PROJECT MANAGER, AICP, LEED® AP

Sara is driven by the desire to transform both urban and natural environments to improve their social, environmental and economic health. Trained as both a landscape architect and planner, Sara brings a cross-disciplinary approach to all scales of planning and design applying a technical design knowledge and execution of construction projects to inform larger planning efforts. Sara has brought ideas and concepts to life contributing to several planning efforts for communities throughout the west and Midwestern United States and internationally with a focus on streetscape planning and design, transportation corridor plans, community visioning and outreach, open space planning, park planning and design and new community design. As a seasoned project manager at Design Workshop, Sara has the skills and experience to help clients realize their project vision through each phase of the design process.

Selected Project Experience

Wheaton Downtown Streetscape and Master Plan – Wheaton, IL

Sara served as project manager in the development of the downtown Wheaton, Illinois' streetscape and strategic master plan.

Forest Park Great Streets – St. Louis, MO

Led a team of experts to develop a Great Streets Plan for the 1,300 acre Forest Park in St. Louis. Hosting over 13 million visitors annually, Forest Park faces challenges with access to and circulation within the Park.

South Grand Great Streets – St. Louis, MO

The master plan includes the renovation of streetscape components including, hardscape, planting, signage and public art.

Manchester Road Great Streets – St. Louis, MO

The nearly 1200-acre study area includes the historic downtown district of Manchester, a new town center for Wildwood, and the primary commercial districts for three other suburban communities.

DESIGNWORKSHOP



Education

M.L.A. Pennsylvania State University
- State College, U.S.A. Center for
Watershed Stewardship

Master of Landscape Architecture,
School of Planning & Architecture -
New Delhi, India

Bachelor of Architecture, Sir J.J.
College of Architecture - Bombay,
India

Licensure and Certifications

Licensed Landscape Architect:
Pennsylvania, Illinois

Registered Architect: India

LEED® Accredited Professional
CLARB

Professional Affiliations

American Society of Landscape
Architects (ASLA)

U. S. Green Building Council
Urban Land institute (ULI)

Awards and Honors

Merit Award by AIA, PHL
Chapter for Sustainable Campus
Master Plan, Dayananda Sagar
University in Bangalore, India.
2015

Merit Award by SCUP/
AIA-CA for Adaptive Reuse for
Dickinson College Kline Fitness
& Squash Center, 2015

Manisha Kaul

PLA, LEED®AP

Manisha Kaul is a Landscape Architect and is the Office Director of Design Workshop's Chicago office. Trained as both a landscape architect and an architect, her interests as a landscape designer and planner lie in creating resiliency, harmony and balance between the built and the natural worlds. Manisha's expertise in integrating cutting-edge stormwater management techniques at both site and watershed scales have resulted in new and enhanced ecological systems on projects of varying scales. She has managed planning and site design implementation projects of numerous academic and residential/mixed-use campuses both in the United States and internationally.

Selected Project Experience (* Completed prior to DW)

Wheaton Downtown Streetscape Plan – Wheaton, IL

The design team worked with community members and stakeholders to develop an updated vision for Downtown for the next 20 years. The plan was focused on creating a vibrant destination district.

Taza Park Development – Tsuut'ina Nation, AB, Canada

A retail and mixed-use development that will serve as a benchmark for the sustainable development of a much broader redevelopment effort within the First Nation lands to the southwest of Calgary.

Woodland Avenue Streetscape – Philadelphia, PA*

The project created a cohesive design vision for Woodland Avenue and its vicinity between 41st and 43rd Streets that integrates the north and south parts of the University of the Sciences Campus. The plan identified opportunities for integrating Woodland Avenue frontages into the existing Campus Master Plan and creating plazas, seat walls, shaded spaces within the campus and on Woodland Avenue to encourage student interaction and activities.

DESIGNWORKSHOP



Education

University of Illinois at Urbana-Champaign, Master of Landscape Architecture

University of Tehran, Iran Master of Architecture & Bachelor of Architecture, (Graduated with Honors)

Licensure and Certifications

Licensed Landscape Architect: Illinois
Certified Construction Document Technologist (CDT)

PSMJ Resources, Inc. Project Management Bootcamp, 2017

Professional Affiliations

American Society of Landscape Architects (ASLA)

The Honor Society of Sigma Lambda Alpha - psi Chapter

Chicago Women in Architecture

Chicago Women in Planning & Development

Awards and Honors

Outstanding Graduate Student Award of the Illinois Chapter of ASLA, 2015

Sasaki Day Award from the Department of Landscape Architecture at UIUC, 2014

Wadsworth Business Scholarship, 2014

Vincent Bellafiore Fellowship, 2013

Faezeh Ashtiani

PLA, CDT

Faezeh obtained both a bachelor's and a master's degree in architecture from the University of Tehran in Iran. After working in the field of architecture for a year, she found her passion for sustainable and resilient landscapes. This passion brought her to the United States to pursue her master's degree in landscape architecture. Faezeh became an esteemed graduate of the University of Illinois at Urbana Champaign's MLA program in 2015 and joined Design Workshop Inc. later that year.

As a designer, Faezeh is meticulous and detail oriented. She is comfortable with both large and small scale work in either international or domestic contexts. Much of Faezeh's work abroad has been centered on cultural and entertainment spaces in her home country of Iran. Here at Design Workshop, she has been able to utilize her knowledge of both architecture and landscape architecture to contribute and lead various projects from small to large scale.

Selected Project Experience

Wheaton Downtown Streetscape & Master Plan – Wheaton, IL

The design team worked with community members and stakeholders to develop an updated vision for Downtown for the next 20 years. The plan was focused on creating a vibrant destination district. The team has been working on multiple phases of implementation of the Streetscape portion of the plan since 2017.

Bradley University Hardin Circle of Pride – Peoria, IL

The project creates a celebratory space for campus events, such as homecoming and graduation, and also helps attract donor support for the school through enhanced alumni engagement.

Chicago AIDS Garden – Chicago, IL

The Chicago Park District has designated space near Belmont Harbor for a new AIDS Garden. The garden is intended to memorialize those lost to HIV/AIDS, as well as Chicago's own efforts to combat HIV/AIDS, and to provide an educational component about the current fight.

DESIGNWORKSHOP



Education

Master of Business Administration;
University of Colorado, Denver

Bachelors of Communications/
Journalism and Business
Administration; Trinity University, San
Antonio

AICP, American Planning Association
Certified Planner

Facilitation Training by Leadership
Strategies, Atlanta

Licensure and Certifications

American Institute of Certified
Planners

Professional Affiliations

Young Presidents Organization
(YPO Gold)

Universidad de Francisco Marroquin,
Real Estate Graduate Studies, Real
Estate Marketing Professor

Recent Awards and Honors

Who's Who in Construction,
Architecture & Engineering, Denver
Business Journal

Top 100 Business Women in Arizona,
Today's Arizona Woman

Merit Award, ASLA, Clark County
Wetlands Master Plan

National ASLA Merit Award, North
Lake Tahoe Tourism Plan

Becky Zimmermann

ECONOMIC ADVISOR, AICP

Becky has devoted her career to solving complex issues in the areas of community planning, market and economics, and resorts and tourism. She is recognized for her work in leading communities, companies and organizations in strategic and business planning, market definition and strategy, development entitlements, real estate economics, facilitation and advisory services. She has also been integrally involved in leading community participation processes and facilitation for projects.

Becky is a frequent keynote speaker for a variety of conferences including the Urban Land Institute Placemaking Conference, Union of British Columbia Municipalities Conference on Sustainability, and the Brown Fields Gray Water Symposium hosted by the Harvard Graduate School of Design. Her work has been published in Metropolis magazine, Landscape Architecture Magazine, Urban Land, and a variety of local periodicals. She has served on the Denver Mayor's Commission for Disabilities and the Leadership Advisory Council for the Colorado Nonprofit Association.

Selected Project Experience

Reunion Town Center – Commerce City, CO

Steamboat Base Area Redevelopment Project – Steamboat Springs, CO

Steamboat Springs Downtown Plan – Steamboat Springs, CO

I-25 & Erie Parkway – Erie, CO





a5 Team Members

John Harris – Principal

John helps clients tell stories in a clear, consistent and compelling manner to generate results from marketing and communication programs. Working with the brand, interactive and experience teams at a5, he has deep expertise in all media, from brand identity to advertising, outreach and engagement, collateral, web development, public relations, social media and the creation of branded experiences.

A former journalist for Forbes, Harris wrote the first national story on Starbucks, predicting that it would change our culture and society. He also wrote for the Milwaukee Journal and served as editor of Rockford Magazine before joining The Marmon Group, Inc. (then a \$6 billion organization owned by the Pritzker family) as director of communications in 1991. There, he consulted with Marmon's 100-plus companies on marketing communications and public relations issues in a wide variety of industries including financing, consumer and industrial products.

Before co-founding a5 in 2001, John served as a strategic communications consultant for VSA Partners, advising such clients as Steelcase, Landscape Forms and US West on brand development and brand management.

In his role as principal of a5, Harris has developed expertise in working with communities, sustainability, healthcare, education, non-profits, consumer products and financial services, among others. He has a passion for creating healthy, sustainable communities, and developed GreenTown: The Future of Community, a one-day experience dedicated to bringing the public sector together with the private sector to create sustainable communities, with non-profit Seven Generations Ahead. Client experience includes working with communities such as New Buffalo Township, Watervliet, South Bend, Toledo, Grand Rapids, Oak Park, Forest Park, Woodstock and many more.

Born in Cleveland, Ohio, Harris is a graduate of Carroll University in Waukesha, Wisconsin, and has taught at Roosevelt University and Carroll University.

Harris serves on the boards of Garfield Park Conservatory Alliance, Wonder Works Children's Museum, Friends of Richton Park, Bradbury Carnegie Library, Lauren's Hope and Triton College Foundation.

Experience Highlights:

Milwaukee Journal
Forbes
The Marmon Group
Steelcase
Campbell Soup Company
Interface
Ameritrade
NYSE Euronext
Field Museum
Downtown Cuyahoga Falls, OH
Fairmount Properties
Hull
Kent
Toledo/Lucas County



a5 Team Members

Fletcher Martin – Creative Director

Fletcher is a founding principal and creative director at a5. He is responsible for the design development and creative direction of a5 projects, including branding and identity, signage, interactive design, naming and more.

Prior to forming a5, he spent five years at VSA Partners in Chicago as a design director working with such clients as Steelcase, Harley-Davidson and H₂O+. At a5, his client experience includes World Wildlife Fund, New City Magazine, UI Labs, Chicago Park District, Chicago Children's Museum, Field Museum, Museum of Contemporary Art San Diego, Chicago Architecture Foundation, Congress for the New Urbanism, Chicago Transit Authority, MacArthur Foundation, Surgical Care Affiliates and NYSE Euronext.

From 2009 to 2014, he served as an executive board member (Treasurer) of the Chicago chapter of the AIGA – the professional organization for design – and is a member of SEG D, the Society for Experiential Graphic Design, which works to expand design excellence in the built environment. He often speaks to groups of college and university students about the field of graphic design. He has also volunteered as creative director for two creative rallies for EPIC, a non-profit that pairs volunteer writers and designers with worthy causes and organizations. The EPIC projects Fletcher led include the rebranding of Illinois Humanities and messaging/collateral for Literacy Chicago.

Fletcher's work has been recognized by the Art Directors Club, AR100, British Art Direction & Design, Communication Arts, HOW Magazine and Type Directors Club, among others.

Fletcher graduated from Texas Christian University with a BFA in graphic design.

Experience **Highlights:**

Harley-Davidson
NYSE Euronext
Steelcase
Field Museum
World Wildlife Fund
AIA Chicago
Museum of Contemporary Art
San Diego
Chicago Park District
Chicago Children's Museum
Chicago Transit Authority
City of Charlevoix, MI
Downtown Cuyahoga Falls, OH
Fairmount Properties
Hull



Dave Shannon, PE

Project Manager

David Shannon, PE, is a Project Manager in Lochner's Chicago, Illinois office with over 27 years' experience in transportation engineering. David has a roadway design background, and for the past 25 years has been specializing in planning and project development.

David has experience in traffic and accident analysis, preliminary engineering, development of build alternatives, public involvement, agency coordination, and NEPA environmental reports and documentation. He has led the project development process for several complex projects.

He has also been involved in several projects involving context sensitive solutions. Notably, for a Harlem Avenue Underpass project for the Villages of River Forest, Forest Park and Oak Park, David was constantly communicating with the Steering Committee, which was implemented to accommodate the large number of stakeholder groups in the three-village project area. To date, David has worked with the Steering Committee on several key tasks, including: conducting a context audit to identify area values; developing the study's official Purpose and Need statement; developing and refining preliminary improvements; and developing and refining engineering and environmental impact data.

PROJECT EXPERIENCE

Improvement of Harlem Avenue under Union Pacific Railroad; River Forest, IL

Owner: Village of River Forest

Project Manager | Project Completion: 2019

Phase I study to determine improvements for Harlem Avenue under the Union Pacific Railroad, Metra and Chicago Transit Authority (CTA) combined bridge structure. Phase I services include the design of a new 72'-long, 100'-wide single span bridge consisting of six steel through girders to support three UP tracks and two CTA Green Line tracks, as well as design of one CTA station platform to accommodate the increased span length due to the proposed Harlem Avenue reconstruction. Responsible for:

- Managing the traffic studies
- Managing the accident studies
- Developing the proposed geometrics
- Coordinating with regulatory agencies
- Coordinating with railroads
- Managing the preparation of environmental reports
- Leading the public involvement activities

Grand Avenue Reconstruction, Fullerton Avenue to Desplaines Street; Chicago, IL 127th Street Bridge and Intersection Improvements; Plainfield, IL

Phase I for Replacement of CN Bridge over Brookmont Boulevard; Kankakee, IL

Phase I Engineering for Main Street and Nelson Lake Road Intersection; Kane County, IL

Phase I Engineering Services for Kirk Road at Douglas Road; Kane County, IL

Phase I Engineering for IL 47/US 30 from Kennedy Road to Cross Street; Kendall and Kane Counties, IL

Phase I Engineering for Lake-Woodbine Bridge Reconstruction; Lake Forest, IL

South Water Street Viaduct Rehabilitation, Stetson Avenue to Beaubien Court; Chicago, IL

Preliminary Engineering for 31st Street from IL Route 83 to Jorie Blvd.; DuPage County, IL

104th Avenue Multiuse Path, 159th Street to 163rd Place; Orland Park, IL

West Branch DuPage River Trail Crossing at IL 38; DuPage County, IL

Years of Experience:

27

Education:

- Bachelor of Science in Civil Engineering, Michigan State University 1992

Professional Registration:

- Professional Engineer: NY #084739-1
- Professional Engineer: WA #43403
- Professional Engineer: WI #41619-006
- Professional Engineer: IN #PE10707882
- Professional Engineer: NC #024851
- Professional Engineer: MO #2007007702
- Professional Engineer: UT #6465866-2202
- Professional Engineer: TX #101497
- Professional Engineer: VA #0402033783
- Professional Engineer: MI #6201044157
- Professional Engineer: IL #062-051201

Affiliations:

- American Society of Civil Engineers
- Transportation Research Board

Areas of Expertise:

- Noise Analysis
- Environmental Studies
- Categorical Exclusion Documentation
- Highway/Roadway Design
- Bike/Ped Facility Planning/Design
- Traffic/Transportation Analysis
- Intersection Analysis/Design
- Air Quality Analysis
- ADA Facility Evaluation/Design
- Public Meeting Coordination
- Alternative Development and Analysis
- Design Study Report Development
- Maintenance-of-Traffic (MOT) Plan Development
- Noise Wall Design
- Noise Balloting
- Cost Estimate Development

Doug Bender, PE, PTOE

Civil Engineer

Douglas Bender, PE, PTOE is a member of Lochner's Midwest design group and has over 17 years of experience in civil engineering, with in-depth experience working on Phase I projects, Phase II roadway design, and site development projects. Doug has extensive experience working with clients such as the Illinois Department of Transportation, the Chicago Department of Transportation, the Indiana Department of Transportation, Cook County, and Kane County.

Doug's specialties include interchange design, intersection analysis and design, traffic signal design, maintenance of traffic plans, lighting, traffic control design, and roadway design.

Doug's also skilled in lighting design. He spent one year working as lighting engineer for the City of Chicago Division of Electrical Operations. Responsibilities included: preparing photometric calculations, preparing proposed lighting design for incorporation into contract documents, and evaluating existing infrastructure while on field inspections.

PROJECT EXPERIENCE

Union Avenue Sidewalk and Street Improvements; Chicago, IL

Owner: Chicago Department of Transportation
Roadway Engineer | Project Completion: 2014

Design services to reconstruct the full roadway width, all existing sidewalks, and curb and gutter on Union Avenue between Grand Avenue and Ohio Street. Lochner's design also filled existing sidewalk vaults and improved the storm sewer system. Responsible for:

- Designing roadway and viaduct lighting

Phase I/II Design Services for Ridge Road from Route 126 to Wheeler Road

Owner: Kendall County
Transportation Engineer | Project Completion: 2014
Phase I and II design services for one mile of new roadway and one mile of improvements to existing roadway and intersection, an access-controlled artery. The project consisted of separate grading and paving contracts and includes a newly signalized intersection using video detection and two new box culverts. Responsible for:

- Completing traffic signal and lighting design in final roadway plans

Chatham Market- Retail and Commercial Development

Private Owner, Chicago, IL
Lighting Engineer | Project Completion: 2008
New lighting for proposed S. Holland Road, W. 85th Street parking lot lighting, and roadway lighting within development
Responsible for:

- Preparing photometric calculations
- Preparing proposed lighting design for incorporation into contract documents for construction

Irving Park Road Streetscape Project, Tripp Avenue to Pulaski Road, 2005

Chicago, IL
Lighting Engineer | Project Completion: 2005
New lighting for parkway rehabilitation
Responsible for:

- Preparing proposed lighting design for incorporation into contract documents for construction

Years of Experience:

17

Education:

- Bachelor of Science in Civil Engineering, University of Iowa 2002

Professional Registration:

- Professional Engineer: IL #062-063298
- Professional Engineer: IN #PE11400671
- National Council of Examiners for Eng. and Survey #59733

Affiliations:

- American Society of Civil Engineers

Certifications:

- Professional Traffic Operations Engineer

Areas of Expertise:

- Highway/Roadway Design
- Signal Design
- Intersection Analysis/Design
- Technical Writing/Editing
- Interchange Design
- Maintenance-of-Traffic (MOT) Plan Development
- ADA Facility Evaluation/Design
- Pedestrian Crossing Design (Grade Separated)
- Streetscape Design
- Lighting Design
- Erosion/Sediment Mitigation
- Computer-Aided Design & Drafting (CADD)
- Single Point Urban Interchange (SPUI) Design



Robert Hong, PE, SE

Senior Structural Engineer

Robert Hong, PE, SE is a Lead Structural Engineer and Project Manager in Lochner's Chicago, Illinois office with more than 25 years' structural design experience within the transportation industry. Specialty areas of structural analysis and materials include pre-stressed, post-tensioned, accelerated bridge construction, seismic analysis, and slurry wall and secant pile wall design. Robert also has extensive design experience with various bridge types including railroad, cable stayed, truss, moveable, and tied arch bridges.

Robert has served as a lead structural engineer in numerous large, multi-disciplinary projects and Design-Build pursuits. These projects serve local clients such as CDOT, IDOT, Metra, and ISTHA in addition to transportation clients nationwide. Most notably, Robert was the Project Manager and Lead Structural Design Engineer for the award-winning Halsted Street tied arch bridge in Chicago. This project took a critical design approach that encompassed analyzing, designing, detailing and erecting the bridge over water. The distinguishing characteristic of a tied arch bridge enables the structural type to support a long span crossing.

Robert has designed bridges, retaining walls, and related structures for numerous highway, heavy rail, and light rail facilities, as well as pedestrian crossings. He has extensive expertise in the analysis and design of many different bridge types, including cable-stayed, tied-arch, and movable structures. He has performed analysis and design of swing and vertical lift movable highway and railroad bridges. Robert was recently the Project Manager for Metra's rehabilitation of a number of facilities at Healy Station, which included providing civil and structural design services from initial concepts to construction documentation.

Robert's railroad bridge experience includes projects for the Kansas City Southern Railway, Union Pacific Railway, Metra, and the Chicago Transit Authority (CTA). Robert used his structural expertise as a Structural Engineer for SR 520, which was a \$360M urban highway improvement Design-Build project in Washington State.

PROJECT EXPERIENCE

Improvement of Harlem Avenue under Union Pacific Railroad; River Forest, IL

Owner: Village of River Forest

Senior Structural Engineer | Project Completion: 2019

Phase I study to determine improvements for Harlem Avenue under the Union Pacific Railroad, Metra and Chicago Transit Authority (CTA) combined bridge structure. Phase I services include the design of a new 72'-long, 100'-wide single span bridge consisting of six steel through girders to support three UP tracks and two CTA Green Line tracks, as well as design of one CTA station platform to accommodate the increased span length due to the proposed Harlem Avenue reconstruction. Responsible for:

- Leading the structural designs for the bridge
- Developing construction staging to roll in the new steel girders in stages

Design Services for Reconstruction of Metra Rock Island District Bridges; Chicago, IL

Reconstruction of the CTA Blue Line Douglas Branch; Chicago, IL

CTA Dan Ryan Red Line Rehabilitation/Design Services; Chicago, IL

Phase I/II Design Services for Replacement of Metra 27th Street Station Pedestrian Bridge; Chicago, IL

CTA Structural Engineering Services - Various Projects; Chicago, IL

CTA-Purple Line Rehabilitation Construction Design Support; Evanston, IL

Years of Experience:

25

Education:

- Master of Science in Structural Engineering, Oklahoma State University 1994
- Bachelor of Science in Structural Engineering, Tongji University 1992

Professional Registration:

- Professional Engineer: CA #85263
- Professional Engineer: IN #10707884
- Professional Engineer: WI #35622
- Structural Engineer: IL #081-006053
- Professional Engineer: BC #162659
- Professional Engineer: FL #66779
- Professional Engineer: TX #117416
- Professional Engineer: MO #2007013086
- Professional Engineer: OH #79281
- Professional Engineer: KS #23694

Affiliations:

- American Council of Engineering Companies
- American Railway Engineering and Maintenance-of-Way Association
- American Society of Civil Engineers

Areas of Expertise:

- Structural Load Rating Analysis
- Seismic Analysis
- Reinforced Concrete Flat Slab Bridge Design
- Arch Bridge Design
- Prestressed Concrete Bridge Design
- Tunnel Design
- Railroad Crossing Design (Grade-Separated)
- Reinforced Concrete Box Girder Bridge Design
- Steel Plate Girder Bridge Design
- Structural Analysis
- Truss Bridge Design
- Steel Beam Bridge Design
- Retaining Wall Design
- Bridge Rehabilitation
- Constructability Reviews
- Quality Control and Assurance Structural Design

Kevin Kassay, PE

Railroad Coordination

Kevin Kassay, PE, is a Project Manager in Lochner's Midwest design group. He has over 28 years' experience specializing in the design of roadway and rail facilities. His expertise in railway engineering includes design for mainline track improvements, rail yards, stations, as well as the pre- and post-construction inspection of at-grade rail-highway crossings. He also has experience in the design of parking lots and civil site improvements. Notably, Kevin was Project Manager for the rehabilitation of the Lisle Commuter Station. As Project Manager he developed plans, specifications and estimates for the installation of two elevators at the existing station, negotiated scope and fee with the client, led project team development, assisted clients in identifying improvements to carry into final design and led project team in development of bid plans and final documents.

Kevin was also Senior Design Engineer for Metra's project to rehabilitate a number of facilities at Healy Station on the Milwaukee District commuter line. Kevin led the civil site and drainage plans for all proposed rehabilitation activities. Kevin's broad client base includes the Illinois Departments of Transportation, the Illinois Tollway, the Chicago Departments of Transportation and Aviation, Metra, the Indiana Department of Transportation, and various counties, municipalities, and private developers.

PROJECT EXPERIENCE

Improvement of Harlem Avenue under Union Pacific Railroad; River Forest, IL

Owner: Village of River Forest

Railway Design Engineer | Project Completion: 2019

Phase I study to determine improvements for Harlem Avenue under the Union Pacific Railroad, Metra and Chicago Transit Authority (CTA) combined bridge structure. Phase I services include the design of a new 72'-long, 100'-wide single span bridge consisting of six steel through girders to support three UP tracks and two CTA Green Line tracks, as well as design of one CTA station platform to accommodate the increased span length due to the proposed Harlem Avenue reconstruction. Responsible for:

- Coordinating with Union Pacific Railroad

CTA Red Purple Modernization Preliminary Engineering; Cook County, IL

Owner: Chicago Transit Authority

Railway Design Engineer | Project Completion: 2021

Preliminary engineering services for Phase One of the Chicago Transit Authority's (CTA) Red Purple Modernization (RPM) Project. This major initiative completely rebuilds the northern portion of the Red Line from Belmont to Howard station and the Purple Line, which extends to Linden station in Wilmette. Portions of the RPM corridor were built more than a century ago. These services include development of the RFP documents for this design-build project. Responsible for:

- Supervising development of track plans for 2000 feet of four-track mainline and 1800 feet of bypass track
- Designing track alignments for permanent and temporary tracks
- Assisting in coordination with Program Manager and CTA

Renewal of CTA Milwaukee Blue Line Track Design-Build; Chicago, IL

Metra Healy Station and Bridge Improvements; Chicago, IL

CTA North Main Line (Red) Stations Rehabilitation Design-Build; Chicago, IL

Relocation of Metra Electric District Line's Weldon Yard; Chicago, IL

Phase I Services for Replacement of Railroad Bridge over Brookmont Boulevard; Kankakee, IL

Rehabilitation of the Cicero Metra Station; Cicero, IL

Statewide Railroad Crossing Inspections; Various, IL

CTA Brown Line Project - Belmont and Fullerton Stations; Chicago, IL

Years of Experience:

28

Education:

- Bachelor of Science in Civil Engineering, University of Missouri-Rolla 1990

Professional Registration:

- Professional Engineer: IL #062-050806
- Professional Engineer: IN #PE10810054

Affiliations:

- American Railway Engineering and Maintenance-of-Way Association

Areas of Expertise:

- Railway Track Planning/Design
- Highway/Roadway Design
- Plans, Specifications and Estimates
- Interchange Design
- MOT Plan Development
- High Speed/Commuter Rail Facility Planning/Design
- Transit Station Planning/Design
- Intermodal Transportation Hub Design
- Intersection Analysis/Design
- Diamond Interchange Design
- Railroad Coordination
- Railroad Crossing Design
- ADA Facility Evaluation/Design
- Light Rail Transit Planning/Design
- Bike/Ped Facility Planning/Design
- Pedestrian Crossing Design (At-Grade)

Jeffrey Rothamer, P.E.

Total Experience: 7 Years | CTL Experience: 1 Year

Jeffrey is a Project Manager with a focus in geotechnical and structural applications as well as transit for roadway, utility, and building projects and has been with CTL since 2018. Jeffrey has conducted a variety of geotechnical field investigations and has prepared multiple Roadway Geotechnical Reports and Structural Geotechnical Reports for the Illinois Department of Transportation (IDOT) and the Illinois Tollway (ISTHA). He also has experience performing field observation for construction activities following IDOT and ISTHA QC/QA Standards and Procedures.

Project Experience

7th Avenue Pavement Evaluation (City of St. Charles): Responsible for coordinating and scheduling field activities and preparing a Geotechnical Report of the existing roadway. Evaluated pavement cores and soils according to all applicable IDOT and AASHTO standards. Prepared a laboratory testing program to obtain parameters for use in design calculations and pavement evaluation.

2018 Quality Assurance Program (Village of Niles): Responsible for overseeing technicians performing IDOT QC/QA field testing. Services also included pavement coring and geotechnical analysis of the pavement and subgrade conditions of the existing roadways.

East New York Street Widening (City of Aurora): Responsible for coordinating and scheduling field activities and preparing a Roadway Geotechnical Report (RGR) for the proposed roadway improvements. Evaluated soils according to all applicable IDOT and AASHTO standards. Coordinated field testing, prepared a laboratory testing program to obtain soil parameters for use in design calculations and roadway recommendations.

Various Core Investigations (Local Municipalities): Responsible for coordinating and scheduling field activities and preparing a Geotechnical Report of the existing roadway conditions for various municipalities in the Chicagoland area including Village of Cary, Village of Hanover Park and Village of Campton Hills. Evaluated pavement cores and soils according to all applicable IDOT and AASHTO standards. Prepared a laboratory testing program to obtain parameters for use in design calculations and pavement evaluation.

Kenilworth Storm Sewer Improvements (Village of Kenilworth): Responsible for coordinating and scheduling field activities and preparing a Geotechnical Report for the proposed storm sewer improvements. Evaluated soils according to all applicable IDOT and AASHTO standards. Coordinated field testing, prepared a laboratory testing program to obtain soil parameters for use in design calculations and construction recommendations.

Education:

Bachelor of Science:

Civil Engineering

University of Illinois

Champaign-Urbana, IL

Professional Registrations:

- Licensed Professional Engineer: 062-068563

Professional Certifications & Training:

- IDOT SOILS S-33
- IDOT Aggregate Technician
- IDOT PCC Level I
- IDOT HMA Level I
- ACI Field Technician Level I
- IDOT Documentation of Contract Quantities
- OSHA 10-Hour Safety

Riyad Wahab, PhD., P.E.

Total Experience: 46 Years

Riyad Wahab is a Senior Geotechnical Engineer with a focus on quality assurance for all CTL geotechnical project deliverables including, but not limited to, roadway and structural geotechnical reports, as well as field and lab soil testing, to ensure design recommendations meet or exceed the federal, state and local agency's acceptable practices and standard specifications utilizing his 46 years of IDOT and consulting experience.

Work Experience/Career and Project Experience:

State Safety Implementation Engineer, Bureau of Safety Engineering, IDOT Supervised the safety programs unit (responsible for work zone, older/younger drivers, railroad, and bicycle/pedestrian safety issues) and the safety design unit (responsible for roadway hardware safety elements, road safety reviews and assessments, crash analysis, strategic highway safety programs, and highway safety plans)

State Geotechnical Engineer, Bureau of Bridges and Structures, IDOT Supervised 5 engineers responsible for conducting quality assurance of geotechnical deliverables (structural geotechnical reports, construction submittals, and recommendations for foundations and earth retention systems) submitted by consultants and contractors. Also reviewed the engineer's deliverables for in-house projects. Chaired and served on numerous NSF/NCHRP and IDOT-sponsored geotechnical research projects conducted by academia and private consulting entities. Prepared, and assisted in preparation of, geotechnical and foundations specifications and policies. Taught IDOT's Specific Task "S33- Geotechnical Testing and Inspection" Class to private consultants and IDOT's District personnel

State Geotechnical Engineer, Bureau of Materials & Physical Research, and IDOT Chairman of Statewide Geotechnical Engineers Committee, reviewed over 400 roadway geotechnical reports submitted by districts and consultants and provided feedback regarding geotechnical recommendations on projects with varying complexities. Conducted forensic investigations on projects that involved pavement, subgrades, slopes, and tunnel failures, and provided repair recommendations. Chaired and served on numerous NSF/NCHRP and IDOT-sponsored geotechnical research projects conducted by academia and private consulting entities. Conducted various geotechnical experimental features aimed at evaluating new products or improving geotechnical processes, tests, or construction methods. Prepared, and assisted in preparation of, geotechnical specifications and policies. Taught IDOT's Specific Task "S33- Geotechnical Testing and Inspection" Class to private consultants and IDOT's District personnel.

Project Manager, Woodward Clyde Consultants, Chicago, IL Conducted geotechnical investigations, prepared reports, and managed a wide variety of geotechnical and geo-environmental projects with varying complexities

Visiting Professor, Civil Engineering Department, Michigan State University Conducted research and taught civil engineering courses

Assistant Professor, Civil Engineering Department, Yarmouk University, Jordan Taught graduate/undergraduate geotechnical courses, and supervised graduate student theses

Geotechnical Engineer, Tigris Engineering Consultants, Baghdad, Iraq Conducted geotechnical investigations, prepared reports, and managed a wide variety of geotechnical and foundation projects with varying complexities

Education:

PhD, Civil/Geotechnical Engineering: Michigan State University, 1983

MS, Civil/Materials Engineering: University of Birmingham, England, 1979

MS, Civil/Geotechnical Engineering: Baghdad University, 1974

BS, Civil Engineering: Baghdad University, 1972

Awards:

2006 IDOT's "Engineer of the Year" Award

IDOT's Executive Leadership Development Series (ELDS) Award: 1998-2000





PROJECT **UNDERSTANDING AND APPROACH**

PROJECT UNDERSTANDING

TERRA has assembled a team of engineers, planners and landscape architects that are well qualified to address and exceed the needs of the Village of Oak Park for the Oak Park Avenue projects and the infrastructure plans envisioned for Oak Park Avenue. The Village of Oak Park's Request for Professional Services for the Phase I and Phase II Design Engineering for the project clearly outlines the expected scope of work for both the planning and design services aspects of the project. Several aspects of our approach to the project are highlighted:

- Strong central point of contact** – While constant communication will occur with all area leaders for the design, planning and engineering with staff, Dustin Erickson (Project Manager) will be the central contact for the Village. Dustin will have full support of the TERRA Team, but he will be responsible for providing constant project updates, schedule updates and be the point person to field questions from the Village.
- Coordination communication** – The Project Team will accompany every facet of the project design. TERRA will be able to quickly develop the base geometry needed for the various design components. We have identified key experienced staff that will be in charge of each corridor element needed to ensure the timely coinciding of design progress for each component of the desired improvements. This will also encourage the sharing of alternative design detail choices to optimize the overall integrated design.
- Streetscape Design** – The TERRA/Design Workshop Team will leverage the earlier engineering work TERRA has studied to optimize efficiency in the design and design review and preparation of cost opinions to ensure Oak Park realizes a design it is fully comfortable implementing. The design team has developed a work program aimed at extensive civic input to arrive at a consensus driven plan for the future of the heart of Oak Park Avenue.
- Water and Sewer** – The design of water and sewer main replacements recognizes the importance of maintaining service during construction. While sewer mains can be replaced at their current location without significantly disrupting service, replacement water mains must be installed at a different location and pressure tested before new services are installed. The new locations will be coordinated with the Public Works Department to minimize disruption and avoid other utility conflicts while facilitating future maintenance and service connections.
- Roadway Resurfacing** – Pavement design is most dependent upon the level of truck traffic projected over the design life of the pavement. We propose to identify and count the truck traffic along Oak Park Avenue over a 4-hour representative time period to gain a perspective of appropriate truck percentages that should be applied for purposes of pavement design along the Collector thoroughfare.
- Miovision cameras will be used to provide traffic counts at the Randolph Street intersection. They will also enable observations of driver behavior as desired to aid in developing better traffic flow control at this intersection.
- Since ADA curb ramp work within both the Washington Street and North Avenue right-of-way necessitates IDOT geometric review and environmental PESA documentation, this work will be prioritized in our project schedule.



PROJECT APPROACH

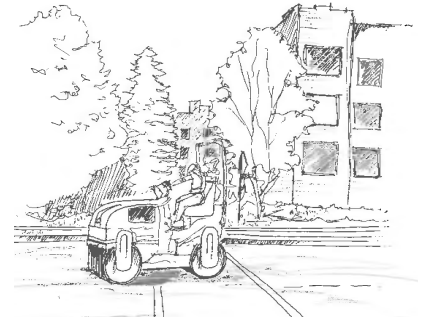
- **Streetscape Design** – The streetscape design work program is built on a basis of constant communication with Village officials, staff and the public. This element of the project will be led by our team member Design Workshop incorporating their local and national experience in visioning, creating and building highly successful and recognized streetscape environments. A streetscape that will give Oak Park Avenue its brand and image, it's sense of place and establish its character as the heart of Oak Park. Through the visioning and development of the Phase I master plan for Oak Park Avenue our team will utilize our first-hand engineering knowledge of the conditions and possibilities for the Hemmingway Business District to provide design alternatives that will address design vernacular, level of design improvements and investment and be based on performance and return on investment.
- The streetscape design work program is organized into three planning phases, **Phase 1** – Discovery, **Phase 2** – Alternatives Design and **Phase 3** – Final Schematic Design. During the Discovery phase we will focus on outreach with stakeholders, review with various Village departments, evaluate business drivers. We will also be developing metrics to determine how we define success of the overall planning objectives for the streetscape and business community. And of course, we will begin a robust public engagement process aimed at establishing a vision for the future of Oak Park Avenue and define the level of improvements expected for the streetscape.
- **Streetscape Lighting** – Streetscape lighting design serves multiple purposes. Lighting for safety of both the drivers and pedestrians. Street lights also provide a dimension aesthetic character and quality. Proper lighting in a commercial district aids in accenting the store fronts and creating of a welcoming visitor experience. Our team of engineers and landscape architects will work to establish the proper thresholds and desired impact for the proper lighting of Oak Park Avenue.
- **TERRA Engineering, Ltd.** envisions utilizing our experienced and qualified Project Design Engineers who are responsible for the design of roadway resurfacing, construction management knowledge and scheduling. This assignment is for phase I & II; however, we feel it is important to capitalize on our local knowledge of Phase II needs to properly develop Phase II documents.
- **Sewer and Water Service** – As we have previously stated, it will be imperative to maintain proper service while this aspect of the project is designed and ultimately constructed. Our engineers are knowledgeable of the specific issues and locations of concern along Oak Park Avenue. We will build upon past agency meetings as we further design the sewer and water improvements. We will be looking at several types of improvements to include replacement of watermains, new b-boxes where necessary, replacement of combined sewers, lining of sewers repair or replacement of deteriorated catch basins. Water service for commercial structures involving fire protection will now need to meet Illinois plumbing code requirements that limit dead end connections. In performing this design special attentions will be paid to utility coordination. Many of the corridor's utilities have been identified on the 2017 survey completed by the Village. However, there are additional utilities such as ComEd cables and communication conduits that will need to be added. We will investigate and collect this information to ensure a coordinated set of improvement plans.
- **Roadway Resurfacing** – The resurfacing of Oak Park Avenue from Roosevelt Road on the south, the North Avenue on the north with the exception of the I-290 Overpass and the Hemingway Business District is receiving Federal Funding and will follow the LAFO policy. Our engineering staff is fully aware and experienced with these policies and procedures.



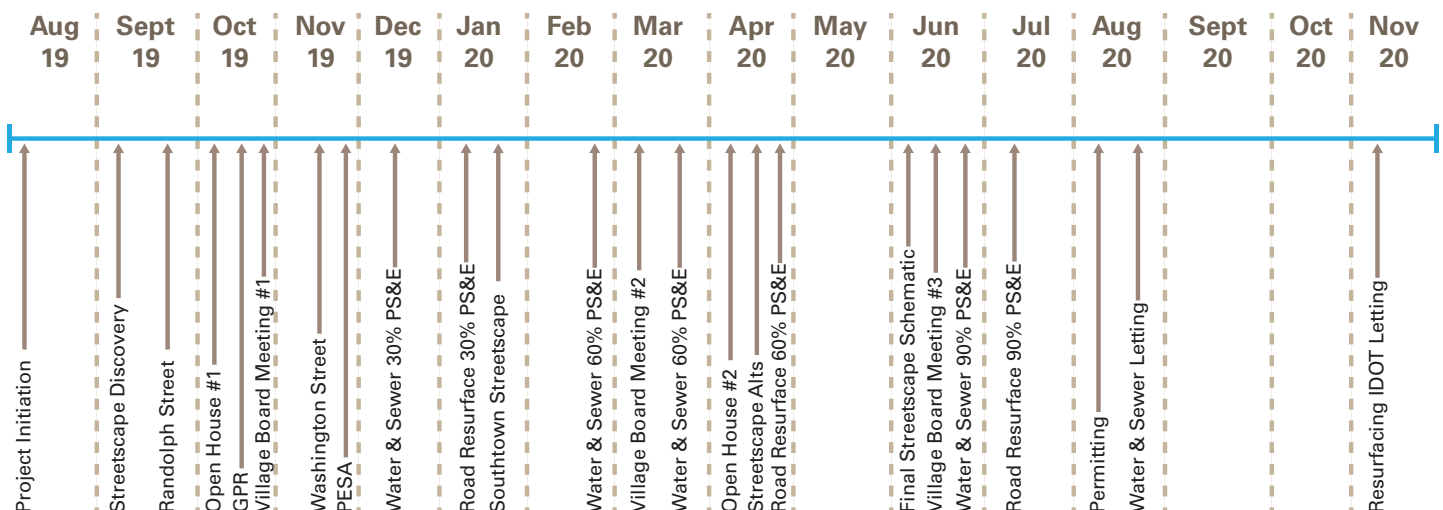
- With the roadway resurfacing component of this project we will be testing and investigating pavement sections to ensure the proper design parameters are established. The design of the roadway resurfacing will take into account

curb and gutter condition and drainage function, ADA curb compliance, the condition of sidewalk connections. In addition to the roadway resurfacing this is an opportunity to evaluate and recommend improvements at several key intersections. We will evaluate and make recommendation to the Randolph Street intersection prior to the resurfacing to account for any geometric modifications warranted. The intersection of Washington Street will look at turning movements for the nearby fire station apparatus. We understand the concern this intersection has raised and will look at minor geometric, parking and striping modifications for this intersection.

- As the design review and recommendation are prepared, the TERRA Team will then begin Phase II design and prepare complete documents, permitting and specification ready for solicitation of bids for the implementation of the project.



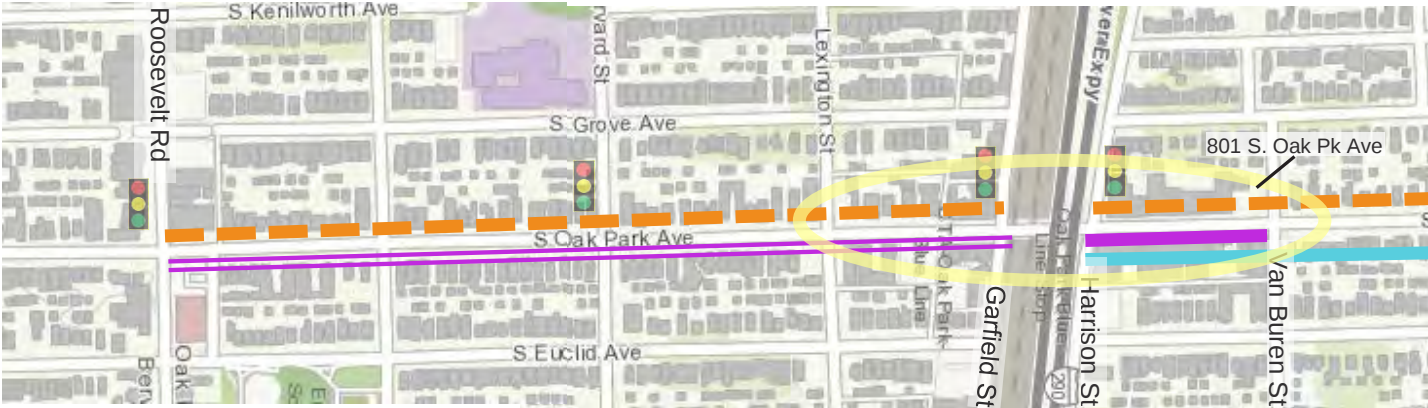
- Underground Investigation** – We will be investigating several aspects in the underground investigation including ground penetrating radar (GPR) to further confirm location of vaults in the business district and guide our design parameters. We will use this data to verify the existing records TERRA already has for these locations. Geotechnical soil borings will be obtained to provide the contractor with information needed for trench excavation shoring protection. Soil pH will be collected for each soil boring as documentation needed for excavated soil disposal. We will be reviewing pavement corings to ascertain the full thickness to determine the type of resurfacing specification required. These will also inform the engineers as they look at alternatives and recommendations for the lowering of the railroad viaduct.
- Quality Control** – The mission of TERRA is to provide engineering and design services to match the needs of the project and to perform these services in a responsible and efficient manner. This QA/QC plan will establish the requirements and approach that will be used to ensure that the work performed by the project team is of the highest quality. In this context, the QA/QC plan will be a continuing process from the start of the project until its completion to ensure that the prescribed standards and policies are met and are applicable to the specified tasks. The QA/QC plan will assure that the Team members have adequate time, materials and training to carry out their assigned duties to perform and produce a quality set of plans that meets and exceeds the Village of Oak Park's expectations and objectives.
- Project Schedule** – We have developed a draft schedule, included with our proposal, to demonstrate how we plan to meet the August 2020 letting schedule for sewer and water main replacement and the desired November 2020 IDOT letting schedule for the resurfacing contract. The Preliminary Schedule outlines the essential tasks and milestones for design phases and engineering phase I deliverable and Phase II documents ready for bidding. Our schedule as presented establishes the milestones for delivery along with projected community engagement targets. We will work with Village staff to refine and to meet any specific dates that may be required.





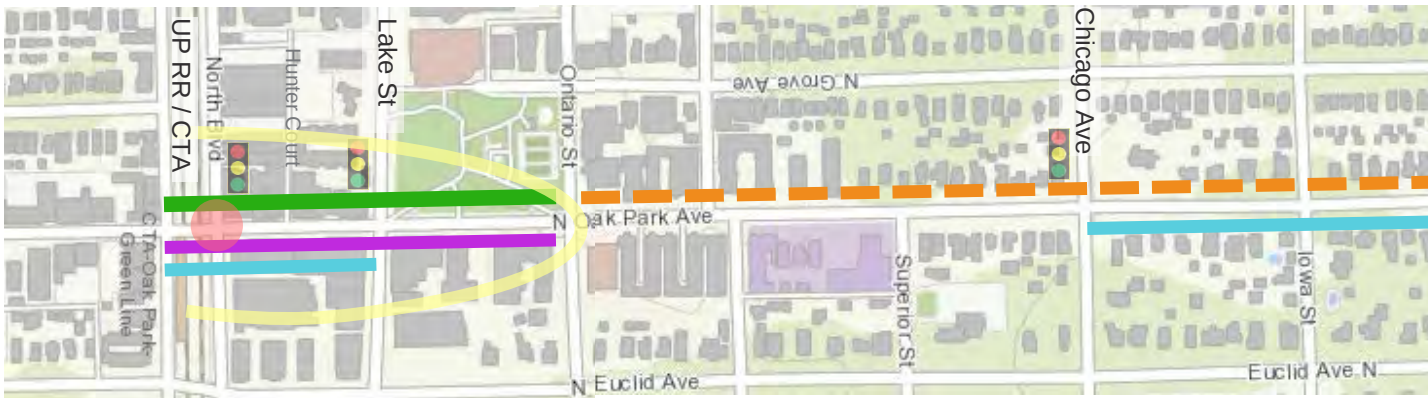
Oak Park Avenue – Project Limits Overview

Roosevelt Rd to Union Pacific RR / CTA Green Line



- **Roadway Resurfacing** – Roosevelt Rd to Pleasant St
- **Sewer Rehab / Lining** – Roosevelt Rd to Garfield St
- **Sewer Main Replacement** – Harrison St to Van Buren St
- **Water Main Replacement** – Harrison St to Jackson Blvd
- **Business District** – Lexington St to Van Buren St (Southtown)

Union Pacific RR / CTA Green Line to North Avenue



- **Roadway Resurfacing** – Ontario St to North Ave
- **Streetscape Project** – Pleasant St to North of Lake St
- **Sewer Main Replacement** – Randolph St to Ontario St
- **Water Main Replacement** – South Blvd to Lake St
- **Business District** – Pleasant St to Ontario St (Hemingway)
- **Intersection Evaluation** – Signal Modernization at North Blvd



- **Roadway Resurfacing** – Roosevelt Rd to Pleasant St
- **Streetscape Project** – Pleasant St to North of Lake St
- **Sewer Main Replacement** – South of Madison St; Randolph St to Ontario St
- **Water Main Replacement** – Madison St to Randolph St
- **Business District** – Pleasant St to Ontario St (Hemingway)
- **Intersection Evaluation** – Washington Blvd and Randolph St; Signal Modernization at South Blvd



- **Roadway Resurfacing** – Ontario St to North Ave
- **Water Main Replacement** – Chicago Ave to Augusta St





Bill McKenna, PE
Oak Park Village Engineer

Dustin Erickson, PE, CFM

 Project Manager (T)

ROADWAY RESURFACING



David Landeweer, PE
Team Lead (T)

**Colin Coad, PE,
PTOE, VMA**

Roadway Geometrics (T)

Dave Shannon, PE
Environmental (L)

**Chris Hutchinson,
PE, PTOE**

Traffic (T)

**Doug Bender, PE,
PTOE**

Intersection Design (L)

David Landeweer, PE

Bicycle Accommodations (T)

Robert Hong, PE, SE

Sr. Structural Engineer (L)

Alex Badoui

Roadway Design (T)

Kevin Kassay, PE

Railroad Coordination (L)

Bernard Bolanowski

ADA Design (T)

Jeffrey Rothamer, PE

Geotechnical Analysis (C)

WATER AND SEWER



Katherine Kenefake, PE
Team Lead (T)

**Alex Heidtke,
PE, LEED AP**

Water (T)

**Selena
Hilton-Aragon**

GIS Analyst (T)

**Jason
Heinekamp, PE**

Sewer (T)

David Albers, PE

QA/QC (T)

Riyad Wahab, PhD, PE

Survey / GPR (C)



Denotes Key Personnel

Professional Engineering Services for Design Engineering (Phases I & II) for the Oak Park Avenue Resurfacing, Utility, and Streetscape Projects

 **Jamil Bou-Saab, PE**
Project Director (T)

STREETSCAPE

 **Kurt Culbertson, FASLA, AICP**
Team Lead (D)

 **Sara Egan, ASLA, AICP**

Hemingway District
Planning (D)

 **Keven Graham, FASLA, PLA**

Design and Forestry
Coordination (T)
(& Southtown District)

Manisha Kaul, ASLA, PLA

Public Engagement (D)

Jennifer Draper, PLA, ASLA, LEED AP

Cost Estimate (T)

Faezeh Ashtiani, ASLA, PLA, CDT

Cost Estimate (D)

Will Prescott

Design Analysis (T)

Becky Zimmermann, AICP

Cost Estimate (D)

PUBLIC INVOLVEMENT

 **John Harris**
Team Lead (A)

Jamil Bou-Saab, PE

Public Affairs (T)

Lizzy Kreindler

Public Information, Website
(A)

Charles Colley

Public Information, Website
(A)

Fletcher Martin

Public Information, Website
(A)



DESIGNWORKSHOP
LOCHNER

a5
Branding
& Digital







DETAILED **WORK PLAN**



Oak Park Avenue Resurfacing, Utility and Streetscape Projects



DESIGNWORKSHOP

a5
Branding
& Digital

LOCHNER



Chicago Testing
Laboratory, Inc.

PROJECT TASK	AUG-2019	SEP	OCT	NOV
Kickoff Meeting With Village	★			
TASK 1: STREETScape PROJECT				
Phase 1 Discovery				
Metrics				
Stakeholder Meeting #1		★		
Open House #1			★	
Village Board Meeting #1			★	
Phase 2 Alternative Design				
Village Board Meeting #2				
Open House #2				
Phase 3 Final Schematic Design				
Village Board Meeting #3				
TASK 2: WATER AND SEWER MAIN				
Utility Coordination				
Update Field Investigations per New Code Requirements				
PS&E Preparation with Milestone Submittals at 30%, 60%, & 90% with Review by Oak Park				
IDOT ROW, MWRDGC & IEPA Water Permitting				
Local Letting for Water and Sewer Project				
TASK 3: ROADWAY RESURFACING				
Existing Pavement and Section Crown Evaluation				
Proposed HMA Pavement Removal and Replacement Design				
Pavement Patching, Curb, and Sidewalk Condition Assessment				
Drainage Structure Condition Assessment				
Phase I BLR Form 46300 Submittal and IDOT Review				
ADA Curb Ramp Design				
PS&E Preparation with Milestone Submittals at 30% (Oak Park only), 60%, & 90% with Review by Oak Park and IDOT				
IDOT Letting for Resurfacing Project				
TASK 4: SOUTHTOWN BUSINESS DISTRICT				
Develop Bump-out Geometry				
Identify Needed Streetscape Repairs				
Develop Minor Streetscape Enhancements				
Development Coordination				
TASK 5A: WASHINGTON BLVD INTERSECTION				
Perform Fire Truck AutoTURN Study and Develop Remedy				
Prepare ADA Curb Ramp Design Exhibits (Include North Ave.)				
Submit Exhibits for IDOT Review and Approval				
TASK 5B: RANDOLPH ST INTERSECTION				
Collect Accident and Traffic Information				
Develop Geometric Enhancement				
TASK 6: GEOTECHNICAL AND PAVEMENT INVESTIGATION				
Coordinate JULIE Locate for Geotechnical Borings				
Obtain Borings and Pavement Corings				
TASK 7: ENVIRONMENTAL STUDIES (ESR, PESA and PSI)				
Prepare Submittals for IDOT ROW ESR & PESA Work				
Prepare Oak Park Ave PESA				
PSI (by Village)				
TASK 8: TOPOGRAPHIC SURVEY				
Remaining Streetscape Survey				
Supplemental ADA Ramp and Utility Survey				
TASK 9: VAULTED SIDEWALKS AND GPR SURVEY				
Conduct Vault Inspections				
Perform GPR Survey				
TASK 10: FORESTRY COORDINATION				
Perform Tree Evaluation				
Assess and Coordinate Utility Work Impacts				
TASK 11: UNION PACIFIC RR VIADUCT				
Roadway Profile Lowering Studies				
Potential Modifications to LED Lighting on Viaduct				
TASK 12: PUBLIC INPUT, MEETINGS, AND WEBSITE				

[illegible]

Detailed Work Plan

Project Management

The TERRA Team fully understands the challenges and opportunities the Oak Park Avenue corridor project possesses. We also understand that execution of project tasks and preparation of project deliverables needs to be carefully planned, monitored, and managed. Our project manager Dustin Erickson, P.E., CFM has the qualifications and experience needed to manage the multi-discipline planning and design tasks that will be underway concurrently. He will be supported by task leads that have the technical ability and expertise to identify and resolve any issues which may arise that could affect the project schedule.

We will execute the Streetscape, Water and Sewer, and Resurfacing tasks by adhering to the following detailed workplan. Kurt Culbertson, FASLA, AICP, LEED AP will serve as our lead for the Streetscape Project in the Hemingway Business District. He will oversee a team organized to perform the planning work in three distinct phases as described in Task 1 below. Keven Graham, FASLA, PLA will lead the supporting streetscape design work in the Southtown Business District as part of the Resurfacing Project.

The Water and Sewer Project will be led by Katherine Kenefake, P.E. and supported by an experienced team well known to the Village from several past projects. Katherine has extensive experience in water and sewer design as well as the permit requirements applicable to MWRD and IEPA. The Roadway Resurfacing Project will be led by David Landeweer, P.E. who served as the lead designer for a multi-mile utility and resurfacing project surrounding the historic Depot District in Berwyn. Dave is fully aware of the work processes associated with federally funded STP projects and will lead our design team based on LAFO guidelines. He will also lead the coordination with agencies involved in the maintenance of traffic plans for both the Water and Sewer Project as well as the Resurfacing Project. Part of that coordination will include Pace Bus, as Route 311 runs along Oak Park Avenue. Dave also brings expert technical knowledge of accommodating bicyclists throughout the project based on his many years of bike projects throughout the Chicagoland area.

Project Kickoff Meeting

Prior to beginning work, a kickoff meeting will be held with the Village to review the project design expectations, roles of key staff, communication protocol, and schedule to ensure understanding of the overall project and administrative procedures. The Quality Control and Quality Assurance plan we will follow will also be presented to the Village.

Plan Submittals

We will initiate our services upon contract approval with an anticipated start date of August 5, 2019, leading to a completion of the water and sewer work in August 2020 followed thereafter with completion of the roadway resurfacing plan documents for bidding in November of 2020. Interim plan documents will be submitted for review to Oak Park at the 30%, 60% and 90% levels of completion.

Meetings and Coordination

Our team manages projects with the objective of keeping our clients firmly aware of our progress, assuring that we are proceeding with design decisions that are consistent with your expectations. We realize that timely communication can avoid the need for additional meetings.



Task 1: Streetscape Design

PLANNING PHASE 1: DISCOVERY [Aug-Sept 2019]

A. Kickoff Meeting

The project understanding and objectives will be established during an in-person (Streetscape Specific) kickoff meeting with the Client team. A thoughtfully planned meeting is an important first step in creating a collective understanding and strategic launching of the project. At the kick-off meeting the TERRA design team will introduce the design process and team; review the draft community engagement approach and identify stakeholders and the appropriate method of communication and involvement; discuss and finalize the project approach and schedule, review the available data and understand critical success factors of this project.

Our design team would propose that the kick-off meeting be a one-day workshop which includes a morning work session followed by a guided afternoon walking tour to identify issues and opportunities and discuss lessons-learned. The site tour should also include other streetscapes within Oak Park including Marion Street to discuss with Public Works the materials utilized, benefits and challenges with regard to durability and maintenance.



The kick-off meeting will also confirm the critical success factors for the streetscape design. How will we know that the process and outcome were a success? We will begin with the following goals:

- Conduct necessary coordination and outreach with stakeholder and property owners in the project area to create designs and plans that meet the objectives of the various parties along and influenced by Oak Park Avenue;
- Involve various agencies and departments as necessary to arrive at an achievable design (including staff departments and other outside agencies);
- Create designs that elevate the position of Oak Park Avenue and support businesses and ongoing redevelopment in the area;
- Leverage our Team's local knowledge, engineering studies, and construction administration experience.
- Develop a plan that conforms to any existing or pending local, state, and federal regulations.

B. Metrics

The TERRA / Design Workshop Team believes that "what gets measured, gets done" which seeks to imbue every project with a balance of environmental sensitivity, community connections, artistic beauty, and economic viability. Projects that achieve this harmony make a difference for clients and society and leave a legacy for future generations. This approach will allow our team to develop and test design solutions based on an established set of baseline metrics. These baselines are captured during the existing conditions phase of work – and aligned with a clear set of project goals or targets.

The metrics process will not create strict goals governing the design of the plan but will instead guide the focus on measurable objectives for each one of the key areas. The project's vision, goals, measures, and objectives based on existing conditions and community input will inform the range of specific strategies and how they are scrutinized and refined throughout the project. In this way, the plan recommendations will be based on strategies specifically focused on achieving the community's vision and goals.

At the onset of the project, and with the active participation of the client group, the TERRA / Design Workshop team will identify measurable goals and metrics to guide the design process from early stages, which will serve as a tool for education and clear decision making and will be used to measure the plan's success at its conclusion. The design metrics for Oak Park Avenue will be based on information collected on factors such as Vegetative Volume; Noise Levels; Urban Heat-Island Effect; Vehicle Speed; Crash Data; Light Levels; and Mobility for all users, among others with regard to retail health and economics and environmental metrics related to stormwater. Metrics will serve as an essential tool for educating the public on existing conditions, goals and trade-offs and establishing the priorities for the future role of Oak Park Avenue within Oak Park.

C. Public Engagement

• Stakeholder Meetings – Round 1

One of the strengths of the team's process is our ability to tailor strategies for stakeholder and community engagement. Our team's ability to listen, read and interpret the needs of the community, business and property owners will serve as the basis of our recommendations. The discovery phase is centered on listening. The consultant team will facilitate up to four focus group sessions over the course of a one-day site visit. Focus group meetings provide the opportunity for in-depth discussion and discovery with a select group of subject experts and key stakeholders. Design Workshop, TERRA, and A5 will facilitate these meetings to gain an understanding of the concerns, needs and opportunities within the corridor. We anticipate one of these meetings will be held with the Hemingway District Business Association.



• Open House #1 [Oct 2019]

The presentation and exercises will serve to educate community members in addition to the "listening" exercises hosted by the planning team. The goal of this meeting is to understand the priorities for the corridor as well as clarity on necessary trade-offs using the metrics as a basis of understanding and current conditions.

This open house will also begin to explore basic testing of various configurations of the current right-of-way along Oak Park Ave. One of the primary indicators of the social health and civic awareness of a community is the equality of the public realm: people walking on sidewalks, conversing and spending time on the street and in public parks, plazas, and civic spaces, and frequenting local businesses. Another is safety and accessibility, especially for our most vulnerable users: children, the elderly, and those with disabilities. Mobility by vehicle is also important, but speeds need to be at a pace that is appropriate for the setting, and considerate of non-motorized travelers. We will explore design alternatives that may include features for traffic calming, bicycle facilities, intersection controls and repurposing of the right-of-way.

To encourage greater community participation and clearly document the input process, the design team will use Turning Technologies' keypad polling response system meetings. Keypad polling provides instant feedback in group settings by soliciting responses from participants and displaying results in real time. In situations where small vocal groups may otherwise dominate a meeting, keypad polling creates a platform for individuals to be heard and communicate their values. In the end, the plan/design for Oak Park Avenue needs to be defensible. The process and input need to be clearly documented to allow community leaders to bring the plan into implementation. Keypad polling is one tool to clearly communicate the priorities of stakeholders as it provides clear charts and data reports.

- **Online Engagement**

Keypad questions utilized in the Open House will be posted online to encourage further participation.

- **Village Board Meeting #1 [Oct 2019]**

The intent of the first Village Board meeting is to present the results of stakeholder input to date and gain further feedback on configuration alternatives to move forward with schematic design.

PLANNING PHASE 2: ALTERNATIVES DESIGN

Based on the input gained during the Discovery Phase from stakeholders and Village staff, the design team will develop alternative configurations and design palettes in preparation for the second round of stakeholder meetings and Open House #2. Recommendations will focus on redesign opportunities for with a focus on how to improve the right-of-way to support a vibrant business corridor while facilitating the interaction of people and the promotion of commerce – Oak Park Avenue should serve as a destination - not just a transportation channel. Alternative preliminary designs developed in close collaboration with the planners and engineers will assess different possibilities for arrangement and placement of streetscape elements based on the priority metrics established in Phase 1. These may include goals like increasing tree canopy and health, increasing sidewalk width and improving accessibility, for example.

Both the cost of construction as well as the cost of maintenance and life cycle throughout the design process will be taken into consideration. It is critical to understand the material alternatives related to the identified level of investment of each streetscape design or typology. Our process will quantify various material alternatives for paving, curbs, crosswalks, furnishings, site lighting, planting methods and street tree treatments. The various levels of investment must be weighed against the established goals during Phase 1.



Our process will provide the understanding necessary to make informed design and investment decisions. This process will be used at work sessions with Staff, as well as within the stakeholder meetings and public open house to confirm the impact stakeholders feel each element will have versus the impact, they feel the elements will have. This allows us to weigh these factors along with construction and maintenance costs to determine a “good/better/best” strategy for the streetscape. Graphics will be provided at the end of this phase which summarizes the team’s recommendations in the form of presentation boards/slides.

Public Engagement

- **Stakeholder Meetings – Round 2 [Feb 2020]**

The second round of stakeholder meetings will review the alternatives development and gain feedback on materials and style selections for the streetscape design. Participants will have the opportunity to touch and feel paving materials and finishes and view samples of streetscape furnishings.

- **Staff Workshop**

A one-day workshop with Public Works and Planning Departments to finalize the street configuration and work through the good/better/best materials palettes to understand priorities and application of lesson-learned from both the design team and staff.

- **Village Board #2 [March 2020]**

Presentation of the outcomes of the Staff Workshop and draft materials in preparation of Open House #2.

- **Open House #2 [April 2020]**

The second open house will focus on feedback on the alternatives. Activities will include participatory budgeting and prioritization exercises, visual preference exercises as well as the second round of keypad polling. Participatory budgeting is an activity in which stakeholders are provided to play money and asked to spend it on project elements. How funds are allocated indicates items most supported. This exercise helps stakeholders, decision makers, planners and designers, and clients understand costs, think critically about how to best apply limited funds, identify trade-offs and determine the elements most valued by the community.

- This meeting will also gain feedback on materials and style selections for the streetscape design. To build on the feedback from the stakeholder meetings on materials selection, we propose an on-street mockup to occur in a location near to the open house to allow participants to walk outside and experience the materials and site furniture in context.

PHASE 3: FINAL SCHEMATIC DESIGN [May-June 2020]

Approval of the preferred options for the street composition is anticipated to be threefold: 1) Village Board review, 2) Staff review/feedback and 3) Public preference. Upon approval of the preferred options for the street composition, we will create a schematic design package that articulates the design intent and prepares the project for design documentation and construction documents.

Public Engagement

- Village Board Meeting #3

This meeting will present the final schematic design with cost estimates.

Task 2: Water and Sewer Main Project

Varying measures of underground and surface infrastructure improvements are proposed along the entire 25 block length of Oak Park Avenue between Roosevelt Road and North Avenue. The scope of underground work is as follows:

- Underground combined sewer and watermain improvements for the three blocks of the Hemingway Business District which extends from Pleasant Street to Ontario Street must be completed before the decorative themed streetscape improvements are initiated. This includes the utility work beneath the railroad structure. Services will be replaced to the building face.
- Watermain will also be replaced within four separate segments from Harrison Street to Jackson Boulevard, Madison Street to Randolph Street, South Boulevard to Lake Street, and Chicago Avenue to Augusta Street.
- The combined sewers will be replaced for an additional block on each side of the streetscape improvement from Randolph Street to north of Lake Street, as well as for one block within the Southtown Business District from Garfield Street to Van Buren Street. A short segment will also be replaced south of Madison Street. Sanitary services will be replaced to the back of curb.
- The large elliptical sewers between Roosevelt Road and Garfield Street will be rehabilitated and lined.
- Deteriorated catch basins will be identified and replaced or repaired.
- Wherever watermain is replaced new services will be installed to the bbox. Lead services will be replaced to the meter.



A. Hemingway Business District Utility Improvements

Within the Hemingway Streetscape Improvement section, TERRA has already documented existing water and sewer locations within each basement and coordinated with ComEd, Nicor, and the communication utilities to define existing underground utility locations. Existing utility information shown on the 2011 plans which TERRA prepared will be compared with information shown on the Village's survey documents. Any discrepancies concerning underground utility locations will be investigated and resolved. The design of proposed water services must be revisited to address recently enacted Illinois Plumbing Code requirements. Fire protection provisions of the water services will be coordinated with each building owner. The limits of proposed water and sewer extensions will be coordinated with findings and recommendations concerning vaulted sidewalks. The location of proposed drainage structures will be coordinated with proposed profile revisions beneath the railroad viaduct and any geometric modifications associated with the streetscape enhancements. The prior sewer plans will be revised in locations the Village prefers to replace the existing sewer and services as opposed to simply relining the sewer.

B. Utility Coordination and Improvement Design

The topographic survey provided by the Village shows the locations of existing sewers, watermains, streetlight cables, NICOR gas mains, and some fiber-optic utilities. It does not show the locations of ComEd cables and is missing some communication conduits. Avoidance of potential utility conflicts is key to limiting project costs and construction delays. TERRA will coordinate through JULIE to identify the missing utilities and coordinate with them to show their locations on the plans. Missing drainage structures will be picked up by a supplemental survey. The replacement watermain alignments will be selected to best avoid utility conflicts. We will review the existing sewer videotapes for all blocks involving proposed sewer replacement or sewer lining to define existing sewer service locations. The Village water service records will be reviewed for those blocks involving watermain replacement to define the location, size, and material type for each service and correlate this information with those bboxes that are shown on the survey. We will coordinate the desired fire protection provisions of commercial building owners within the Southtown Business District as well as the new development at 801 S. Oak Park Avenue.



C. Geotechnical Investigation for Underground Utility Construction

Geotechnical soil borings that include pH results, will be obtained for all project segments where watermains and sewers will be replaced to provide the contractor with existing soil conditions and pavement thicknesses that will affect trench excavation, excavation disposal, and pavement restoration. The borings will be obtained per affected block of utility construction as outlined in the separately scoped task. A corridor-wide PESA is also scoped separately to establish trench excavation disposal parameters.

D. Contract Bid Plans, Specifications, and Construction Cost Estimates

The PS&E will be prepared to meet the Village of Oak Park and MWRD requirements. Lot lines and addresses will be added to the sewer and water main improvement plan sheets to facilitate quality control and record keeping during design and construction. The Village of Oak Park details and specifications will be utilized for the sewer and water main improvements. Since roadway closure will be necessary to construct some underground improvements, construction staging, maintenance of traffic and detour plans will be incorporated into the plan documents reflecting coordination with all involved stakeholders. This will necessarily involve parking displacement. Recognizing that Lake Street streetscape improvements will be constructed in 2020, TERRA will review those plans to determine if any underground work required for Oak Park Avenue should be constructed in advance as part of the Lake Street work to limit traffic impacts to Lake Street associated with the Oak Park Avenue work.

E. Permitting

TERRA previously obtained both MWRD and IEPA Public Water Supply permits for the streetscape portion of the project. However, these have expired, and new permits will be required for all the Oak Park Avenue utility replacements. Our

quality assurance process ensures that all plan information required for the agency review is clearly presented on the plan documents. IEPA permit requirements will also involve completion of ECOCAT and cultural documentation for the involved project segments. TERRA previously documented these environmental conditions during prior streetscape planning work to affirm no adverse historical impacts within the area of most intense construction activity. IDOT permits will be required for all work performed within the Roosevelt Road and Washington Boulevard rights-of-way. Union Pacific Railroad permits will be required for all utility work performed beneath the viaduct.

Task 3: Resurfacing Project

The entire 25-block length of Oak Park Avenue will be resurfaced as a federally funded project pursuant to the Local Agency Functional Overlay (LAFO) Policy for pavement rehabilitation with exception of the bridge omission for the structure over I-290 and the three-block omission for the Hemingway Streetscape Improvement. As prescribed in Section 46-3 of the IDOT BLRS Manual, BLR Form 46300 will be prepared along with applicable exhibit attachments to document the Type I Categorical Exclusion required for Phase I Planning.

A. Existing Pavement Investigation and Resurfacing Design

Pavement core samples will be obtained per the geotechnical project scope to determine the thickness and composition of the existing pavement. A spreadsheet depicting the core results will be prepared to facilitate the assessment of the existing pavement and enable a determination of the structural soundness of the existing pavement. Distressed pavement areas will be delineated and evaluated for potential patching. Surveyed pavement cross-section results will be compared to determine the range of existing travel lane and parking lane crown slopes. These results will be assimilated and used to reestablish the base cross slope and/or crown, pavement milling, and replacement depths, and the most appropriate construction approach to attain the objective.

B. Curb and Gutter and Drainage Structure Evaluation

All curbs will be evaluated to identify deteriorated conditions that warrant replacement. Positive gutter drainage is present throughout most of the project length. Locations where gutter ponding is present, will be evaluated to determine how to best remedy the condition. Locations of deteriorated drainage structures outside the limits of underground utility reconstruction in need of either replacement or repair will be identified along with the lengths of adjacent curbs that will have to be replaced.

C. ADA Curb Ramp Design

New ADA compliant curb ramps are required for most of the intersection corners within the project. In those locations where detectable warnings have previously been constructed, we will conduct field evaluations to confirm ADA compliance. Each intersection will be evaluated to determine the most appropriate crosswalk alignment needed to achieve compliance. We will review the existing survey information and determine the need for supplemental survey required to develop compliant curb ramp details.

D. Sidewalk Condition Assessment

Existing sidewalks will be assessed to determine where partial replacement is required to overcome excessive deterioration or vertical displacement that creates liability or impedes accessibility.

E. Washington Boulevard Intersection

Curb ramps will be modified at this intersection which involves an unmarked state route. The curb ramp modifications will require Phase I approval from IDOT. Recommendations from the separately scoped fire truck turning movement accommodations study will be incorporated into the resurfacing plans. This intersection will require an Environmental Site



Assessment. Disposal of excavated soil will require a state performed PESA documentation report. An initial assessment of soil conditions will result from the pH soil testing of soil borings obtained in this area.

F. Randolph Street Intersection

Every intersection curb ramp and both islands will need to be modified to achieve ADA compliance at this offset intersection. The resurfacing contract will also incorporate any minor geometric improvements that result from Task 5.

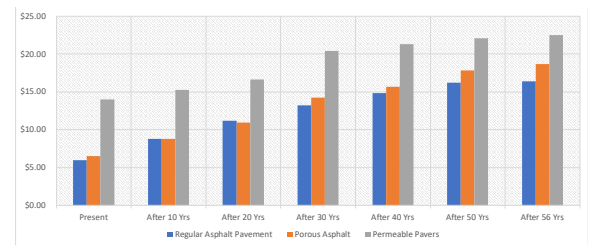
G. North Avenue (IL 64) Intersection

ADA ramps at this state route appear to require modification. The curb ramp geometric design and waste disposal approval requirements will be the same as outlined for Washington Blvd.

H. Plan, Specification and Construction Estimates

The PS&E documents will be prepared to meet Village of Oak Park and IDOT requirements. In addition to the design of various pavement related repairs, the plans will address signing and striping throughout the corridor. Construction staging and maintenance of traffic plans that incorporate cooperative staging with the sewer and water contract will be carefully coordinated with the Village. All improvements associated with the IDOT rights-of-way will be included with the Phase I documents to help expedite the IDOT approval process. Plan submittals for review will be presented at the 30%, 60%, and 90% level of completion consistent with the IDOT approval schedule.

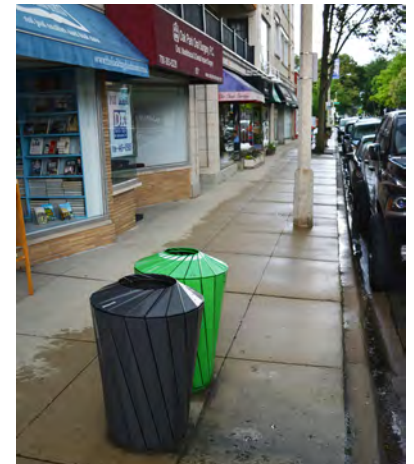
Cost-Benefit Analysis Including Capital Cost and Maintenance



Task 4: Southtown Business District Streetscape

While reviewing the engineering impacts of the water/sewer/resurfacing improvements in the Southtown Business District, the design team will evaluate the level of impact to the existing streetscape to assess potential alternatives for aesthetic improvements. We will look at the level of disturbance and determine what enhancements can be included in the restoration of the infrastructure upgrades. Our landscape architects will work closely with the engineers to look at the base level of restoration area as well as looking at what additional area would be or should be addressed to provide continuity in the streetscape experience. Our team will provide the Village with cost alternatives in order to evaluate and determine final project parameters. Once a level of improvement has been determined, the landscape architects will work alongside the engineers to incorporate selected improvements into the Phase II infrastructure plan.

Every intersection curb ramp of the four involved intersections will need to be modified. The modification at the Van Buren intersection will incorporate bump-outs and will be coordinated with the planned development at the southwest corner of the intersection (801 S. Oak Park Avenue). The block between Harrison Street and Van Buren Street will separately involve both watermain and sewer replacement, providing cost-conscious opportunities associated with the required pavement restoration. Minor streetscape enhancements will be incorporated into the resurfacing contract. Included with this work will be necessary repairs such as uneven brick replacement or the replacement of modification of tree grates with appropriate size diameters to fit the mature trees.



Task 5: Intersections

As part of the overall scope of the project, our team will be reviewing intersections of two major intersections with Oak Park Avenue, at Washington Boulevard and at Randolph Street.

A. Washington Boulevard at Oak Park Avenue

The intersection of Washington Boulevard at Oak Park is a slightly offset intersection under traffic signal control. Left turn lanes are provided in both directions along Oak Park Avenue at the intersection, but they are not provided along Washington Boulevard. Parking restrictions are in place along Washington Boulevard about 100 feet from the intersection

at Oak Park Avenue, allowing the curb lane to function as a de facto through/right lane at the intersection, providing space for drivers to maneuver around vehicles along Washington which are waiting to make a left turn onto Oak Park Avenue.

LAFO Level 1 categorical exclusion funding restrictions limit the nature of work permitted for resurfacing contract. The intersection studies will be limited to an AutoTURN evaluation of potential revised parking restriction, pavement markings, and minor geometric changes (which would not require an IDS) needed to accommodate a fire truck turning from westbound Washington Boulevard onto southbound Oak Park Avenue.

B. Randolph Street at Oak Park Avenue

The intersection of Randolph Street at Oak Park Avenue is a unique layout. The offset intersection is intended to operate as a right-in/right-out intersection for Randolph Street east of Oak Park Avenue, but has limited movements for Randolph Street west of Oak Park Avenue (prohibiting the eastbound left turn). The eastbound through movement is prohibited on Randolph Street, however the westbound through movement is made by making a right turn followed by an immediate left turn across Oak Park Avenue. In addition to the signing that prohibits the eastbound left turn from Randolph Street to northbound Oak Park Avenue, a mountable turning island helps direct traffic; however, as these medians are mountable for larger vehicles like fire trucks, it makes them possible for smaller vehicles to drive over as well, limiting their effectiveness and ability to control movements. This leads to traffic violations as a common occurrence and decreases the overall safety of the intersection for both vehicles and pedestrians. With the adjacent Randolph Park and playground just west of Oak Park Avenue, there is also increased potential for pedestrian activity. The intersection also has deficient ADA ramps and pedestrian crossings that need of upgrades.

We will use our Miovision traffic cameras to collect the vehicle, pedestrian and bicycle data at this intersection. The units use video to collect the data and provide a verifiable record of the conditions that occur at the site. The cameras can record a few hours to a few days of data for analysis. Once the data is processed, our team can observe traffic operations. We will also review crash data for the frequency and types of crashes to determine patterns and potential causes.



Once the characteristics of the intersection movements are known, our team can perform field visits to document additional occurrences, field geometry and other factors at the intersection which can be evaluated to determine potential solutions to improve safety. This information will be studied in conjunction with the Highway Safety Manual and other resources to develop countermeasures for consideration that can be evaluated for both the potential construction cost and benefit to those that travel through the intersection. In addition to the traffic data and field observations, we will evaluate the intersection geometry using AutoTURN vehicle turning simulations. The conclusion of this data collection and analysis effort will be a recommended intersection geometry plan that clearly communicates permitted movements to drivers while prioritizing pedestrian and bicyclist safety and accommodating design vehicle turning movements, such as emergency vehicles and delivery trucks.

C. Bike Accommodations

While Oak Park Avenue was shown as a Shared Lane Marking as part of the August 2008 Bicycle Plan, it was not included with the July 2015 Neighborhood Greenways System Study and Bike Share Feasibility Study. However, signing still exists along the corridor (particularly where designated bike routes cross Oak Park Avenue) indicating the presence of bike routes along the roadway and the directing of cyclists along Oak Park Avenue. Based on our observations, there is a considerable amount of bicycling activity along the roadway, whether it be by through bikers or for short segments to access business, park, or another facility along the roadway.

With the resurfacing of Oak Park Avenue, an opportunity exists to investigate how to (or whether to) accommodate bicycles along the roadway. The NACTO Urban Bikeway Design Guide presents several options to accommodate cyclists along a low-speed, urban roadway. Thomas, Erie and Pleasant Streets are all part of the Greenways Network and they all have offset intersections at Oak Park Avenue. A Bi-Directional Bike-Only Center Left Turn Lane might want to be considered at those cross streets. Due to the width of the roadway, bike lanes cannot be accommodated without eliminating parking on one side of the roadway. If the desire is to provide some kind of accommodation for bikes along Oak Park Avenue (particularly to access the commercial districts), signing and pavement marking will be investigated for installation. Installing pavement marking for Advisory Bike Lanes is one option that may be viable along the roadway.

Task 6: Geotechnical and Pavement Investigation

Chicago Testing Laboratory will lead our team in obtaining and analyzing all geotechnical soil borings and pavement cores for the project. A total of 31 geotechnical soil borings, 13 feet deep, will be obtained within the 14 plus blocks of the streetscape and underground utility replacement segments of the project to provide existing soil conditions and to determine foundation requirements for lighting, traffic signals, and pavement reconstruction design. Each soil boring will also define each layer of the pavement thickness and include soil pH results.

A total of 67 pavement cores will be full depth pavement cores extending down into the existing subgrade soils. In addition to defining the pavement's layers of each core a visual description of the subgrade soil type (clay, sand, silty sand...) together with observable perspectives concerning the degree of consolidation or compaction found to be present. Locations of all soil borings and pavement cores will be defined according to the State Plane Coordinate System.

The soil boring and pavement coring locations will be reviewed and approved by the Village before the work is begun. Our team will implement MUTCD and IDOT compliant traffic control and protection as well as posting Village supplied "No Parking" signs in advance of parking space closures.

Task 7: Environmental Investigations

Because the Resurfacing Project will utilize federal funds, and there will be excavation for new ADA ramps within the state right-of-way at North Avenue, Washington Boulevard, and Roosevelt Road an Environmental Survey Request Form will need to be submitted to IDOT. No impacts to wetlands or T&E species are expected. While the corridor does extend through historical districts, no impacts are expected. A Preliminary Environmental Site Assessment (PESA) performed by IDOT will be required for Phase I approval of the LAFO project due to excavation required within state right-of-way. A follow-up PSI may need to be prepared by IDOT if warranted by findings. Since the streetscape and utility portion of the project will not be utilizing federal funds, a PESA review of the entire corridor will be performed to document disposal of excavated soils for the corridor-wide water and sewer, resurfacing, and streetscape related excavation activities. The PESA will meet IDOT requirements. The PESA will include a Village directory search of Sanborn maps as part of its Historical Use Review. The PESA report will include an executive summary which contains a summary of the risk findings together with a GIS shapefile and pdf printout showing impacted properties within one block of the project location with known Recognized Environmental Concerns (REC) color-coded based on the level of risk associated with the REC using tax parcel shapefiles for highlighting properties. All pdf files of environmental documents obtained through FOIA's, IEPA, and EPA searches, etc., will be organized by street address and will be supplied to the Village via DVD or flash drive. The deliverable of the PESA Report to the Village will be a pdf file of the PESA, one bound hard copy, and a separate pdf and hard copy of the executive summary as described above.

Based on the PESA results a scoping document for the project PSI will be prepared to enable the Village to expeditiously contract the PSI work. The results of both the IDOT PSI and Village PSI will be incorporated into the final plans and special provisions. Along with the PESA, an LPC-662 or LPC-663 form will be prepared and documented for use with the project.

Task 8: Topographic Survey

Additional topographic survey work beyond the topographic survey documents provided by the Village are required for all three aspects of the Oak Park Avenue corridor improvements. Additional topographical survey for the Hemingway Streetscape design is needed for the Hunter Court alley in each direction from Oak Park Avenue until Hunter Court intersects with the north/south alleys both east and west of Oak Park Avenue. Additional topographic survey is required along South Boulevard west of Oak Park Avenue extending to the west side of the commercial site located west of the alley at 811 South Boulevard. The limits of the five vaulted sidewalks as defined by the GPR survey will also be delineated.



Some of the intersection corners requiring curb ramp modifications appear to require some additional sidewalk and/or curb and gutter elevations to establish removal limits and proposed elevations that meet ADA compliance.

Sewer size and invert information must be obtained for several manholes involving sewer work and a couple of existing catch basins have been identified as missing.

The locations of all geotechnical borings and pavement cores must be surveyed so that they may be shown on the project documents and preserved in the Village's GIS data base.

ROW lines will be created in CAD for reference on the contract documents and approximate property lines will be shown for project segments involving utility services.

Task 9: Vaulted Sidewalks and GPR Survey

We will initially send a letter to all properties where there is the potential for vaulted sidewalks to exist to request any available information or knowledge of vaulted sidewalks on these properties and to request the opportunity to perform a property inspection by qualified consultant staff. Consultant staff will then coordinate with each property owner to schedule the on-site inspection. We will make every attempt to schedule the inspections consecutively to minimize the total number of days required for the inspections. During the inspections, the primary goal will be to identify any evidence that a sidewalk vault exists on a particular property. In some cases this may be readily evident, however, in others, the vaults may have been previously walled-off and more detailed inspection will be required. Ground penetrating radar (GPR) could be utilized in these situations to help determine whether a sidewalk vault exists. It can provide an outline of a void signaling the presence of a vault. Once it is determined that a vault exists, means of access will be determined and measurements and structural details will be documented. Recommendations will be made for the disposition of each vault. The results of the inspections and recommendations will be summarized in a report.



Task 10: Forestry Coordination

Oak Park Avenue has an established tree lined aesthetic that will be important to preserve and where needed improved. The TERRA landscape architects will coordinate closely with the Village forester to determine the plant palette based on providing a healthy diversity in trees while maintaining the character of the streetscape.

A key component of the phase II engineering plans will be a comprehensive tree preservation and construction management plan developed to ensure the long-term health of the streetscape canopy.

Task 11: Union Pacific and CTA Coordination

A. Lowering Oak Park Avenue under the Railroad Viaduct

There is a clear need for increased vertical clearance beneath the Union Pacific Railroad viaduct that also serves the CTA Green Line. There is visible damage to the viaduct structure from truck impacts for both directions of travel. Implementing a change to the profile of the roadway in accordance with IDOT Bureau of Local Roads and Streets policies will be challenging, especially considering the constraints of the business entrances in the adjacent corners on South Boulevard and North Boulevard. With approximately 225 feet to complete three vertical curves, it is very likely that the geometric investigation will require considerations for vertical profile kinks and variable height curb. Our team will also consider modifications to the decorative LED "OAK PARK" lighting mounted to the viaduct to avoid future damage. Proposed geometric changes will be prepared while considering the effects on the railroad structure, and the desired improvement will be coordinated with the Union Pacific Railroad (beginning with the Public Project Coordinator) and the CTA. If necessary, we will coordinate with the Illinois Commerce Commission regarding the improvement. Coordination with these agencies will be initiated early on in the project to avoid deviations from the planned project schedule.

B. Vertical Clearance Study

Based on Lochner's experience with the Harlem Avenue Underpass, lowering the roadway profile will face a number of complex obstacles. The first task will be to determine the desirable vertical clearance through coordination with the Village of Oak Park. The existing plans indicate a vertical clearance of 12 feet, but the bridge is currently posted 11'-7". This may be due to pavement overlays that have reduced the clearance. Pavement cores will be necessary to determine the thickness and bottom elevation of the existing pavement. It may be possible to simply replace the pavement with a thinner pavement section that results in a lower profile while providing the necessary thickness, or it may be necessary to study lowering the pavement. The primary concern will be reducing the clearance over the footings along the curb line. A lower pavement section may conflict with the footings and the UP RR will likely require significant structural analysis before they will allow the footings to be modified. The cover over the bottom of the footings also cannot be reduced to less than 4' or the freeze protection can be compromised. If the pavement section can be lowered without interfering with the footings, we will also need to make sure the overburden and allowable bearing pressure are not reduced to an unacceptable level. If the structural studies do not uncover any fatal flaws, the feasible amount of lowering will be determined and if the resulting vertical clearance is determined by the Village to be worth the expense of the construction then additional coordination and geometric studies will be completed. The proposed changes to the pavement elevation and cover over the footings will need to be documented in a Technical memorandum and coordinated with the UP Railroad. The effects on the adjacent side streets and sidewalks will also need to be studied to ensure that the area is traversable by people of all abilities and that the vertical profiles of Oak Park Avenue and the intersecting side streets are acceptable. The sidewalk near the CTA station may also be impacted and any changes should be coordinated with the CTA as a courtesy. It is assumed that existing plans will be provided for the structure and no additional survey will be required. It is also assumed that a geotechnical engineer will review the changes to the bearing pressure and will determine the feasibility of any changes to the cover of the footings.



C. Railroad Coordination

Our team maintains a close working relationship with the CTA and has experience with the difficulties of working with Class I railroads like the UP. Our past coordination on the Harlem Avenue project will be useful in structuring the coordination and Technical Memorandum in a way that allows the railroad to quickly review the proposed change to Oak Park Avenue and the effects on their structure. Revisions to the pavement under the bridge or the decorative lighting and enhancements will be coordinated with the UP railroad and CTA through a kick-off meeting where the project and our proposed methods will be presented to the railroad.

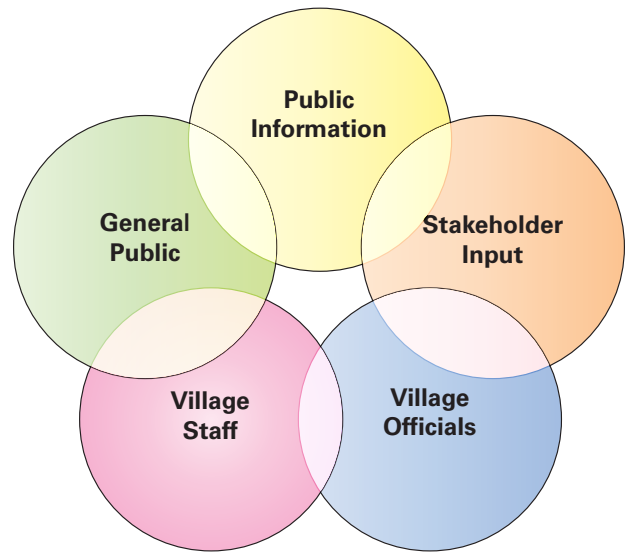


Task 12: Public Affairs / Marketing / Website Development

A. Public Engagement

Public affairs and marketing for the Oak Park Avenue project will take multiple forms of application for this project. The success of the overall implementation of the roadway improvement and more specifically the streetscape design will hinge on the effectiveness of the public's engagement. The design team recognizes 5 areas of public engagement:

1. **Public Information** – Informing the public of roadway improvement, schedules, and accommodations
2. **Stakeholder Input** – listening to and working with key stakeholders within the corridor and business districts to ensure they are part of the planning solutions.
3. **Village Official** – Keeping them aware of the planning process, goals and plans so they can be ambassadors for the project and that they are not caught off guard with any aspects
4. **Village Staff** – Staff will be part of the decision making and processing of the project and need to be aware of all details of the process.
5. **General Public** – As visioning exercises occur throughout the project it is important to receive input for a consensus-driven plan.



Oak Park's Oak Park Avenue Plan provides an ideal opportunity to engage local residents and business owners in the planning process. There are several work activities that will be undertaken early in the planning program to promote community engagement and encourage citizens to participate. These activities and meetings will be undertaken by the TERRA Team led by a5 and Village staff.

In general, all of these community outreach techniques will guide not only the streetscape planning effort but help inform residents and business owners of the planned roadway and utility improvements. Our planning team will work closely with Village staff to define the precise number, timing, and location of meetings to best maximize the engagement with the targeted audiences.

Within the streetscape work plan, specific engagement opportunities and needs as well as the timing within the project have been identified. Those meetings will occur for the purpose of building a vision for the Oak Park Avenue streetscape.

Another highly important engagement opportunity will be the public relations and information aspect of the roadway and utility improvements. This public outreach is critical and is about keeping the stakeholders informed, understanding their needs and ensuring their concerns are heard.

This will consist of:

- Developing a council of ambassadors who are positive about the project and can help spread the word about the benefits--and help engage people in a pleasant and constructive manner. This council of ambassadors should meet quarterly so each person is up to date on the project status. Communication via email and phone will keep people informed in between meetings.
- Meeting with Wednesday Journal publisher Dan Haley and editorial staff.
- Writing and placing news releases and articles placed in area news media, including Wednesday Journal, Oak Leaves, Doris Davenport radio show, Mom Mail and more.
- Meeting with OPEDC, business associations and Chamber of Commerce to outline the project, the process and the timeline.

- Meet with property owners and managers to brief them on the project and timeline and open the lines of two-way communication.
- Providing regular information to OPEDC, the business associations, Chamber of Commerce, Library, school districts, Fenwick, Village and more to include in email and printed communications.
- Creating a poster system to place in business windows, CTA, Library, Village Hall and other places in Oak Park to provide an overview and updates and ways to learn more.
- Developing an email campaign that can disseminate information directly to interested parties
- Write stories and updates to be placed in village communications, including the village web site, emails, Oak Park FYI and video.
- Develop collateral, i.e. a flier or brochure to be placed on the counters of local businesses.
- Conduct “Intercepts” to be held at various businesses along the affected route and nearby. We propose to schedule a number of “intercepts” with local businesses so we can hand out information to people at the outset of the project and at key times during the project. This would need to be mutually agreed upon and could include being present at Courageous Bakery, Spilt Milk and/or George’s on a Saturday morning. We could be at Live Cafe on a particular morning or afternoon and make sure we are engaging people along the entire route.
- Visit block parties along the affected areas (likely one block east and west of Oak Park Avenue) to provide information and answer questions.
- Work with the business districts to create events that draw people in and keep people spending money in the affected districts.
- Develop a co-op advertising plan that enables businesses to participate in an advertising buy to ensure people know they are “open for business.” (We did this successfully during Pleasant District construction.)



Keys to success include:

1. Appointing a lead communications person. This person will be responsible for being the point person to provide information--and respond to questions and comments.
2. Get “fans” on board early by creating a council of ambassadors. This will be helpful to have individuals who are in favor of the project and can influence others.
3. Communicating consistently. We will develop a communications plan and ensure that people are aware in advance of key milestones.
4. Provide a two-way communication flow so people are not only informed, they can ask questions and feel as though someone is listening.
5. Utilize communication tactics that work for all residents, from conversations to email to public comment.

All communication will be upbeat, clear and informative. While there will be pain and disruption along the way, a5 will lead a process that helps keep people focused on the endgame and the benefits. And when there are “bumps in the road”, we will connect with people to keep issues and problems to a minimum.

Through this outreach, engagement and communications process, we will work to make the project smooth and productive and successful.

B. Project Website Development and Management

The website development and process will include the following steps:

1. Planning/Discovery:

- Discussion with the client regarding the amount of content, number of navigation levels, etc.
- Site map creation
- Meeting with client to discuss current website setup, audience groups, key messages
- Convey through copy and design, and an ideal functionality
- Site map approval (upon approval, proceed to phase two)

2. Design:

- Upon site map approval, development and presentation of three design concepts with a home page and subpage for each concept
- Upon approval and selection of design concepts, the remaining page templates are designed and presented based on the selected visual direction and two rounds of design changes to one concept are included in this estimate
- All design refinements are made at this stage
- Design approval. Upon approval, proceed to phase three

3. Prototyping:

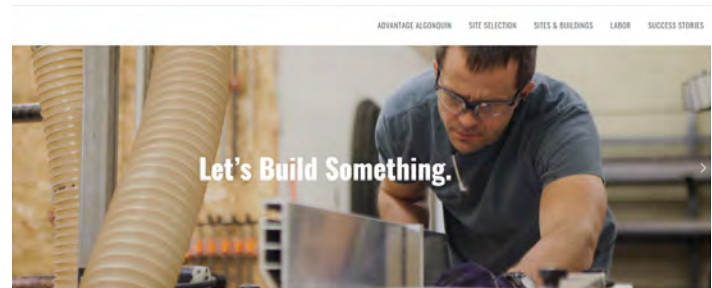
- Upon approval of all templates, a prototype is programmed. This prototype would show functional versions of all unique templates. Functionality is tested at this stage
- Prototype approval. Upon approval, proceed to phase four
- SEO plan developed

4. Production/Content Migration:

- Upon approval of the prototype, the CMS is installed
- The rest of the site content is migrated and placed on a test site for review
- Site is tested for browser compatibility
- SEO plan is implemented
- Minor text changes are made (three rounds of text changes included in estimate)
- Test site approval (upon approval, proceed to launch)

5. Launch/CMS Training:

- Upon approval of the test site, the site is made live
- Content manager(s) are trained for the CMS if updates are needed



Sample Newsletter

Real WOODSTOCK



Woodstock, Illinois: Real creativity. Real tradition. Real fun.

47 miles from Chicago, Woodstock is close to the city with a charming small town personality all its own. Rich with Victorian architecture, a historic town square that seems frozen in time and a world-renowned Opera House, Woodstock also has an independent streak brimming with creativity and entrepreneurship.

**Visit. Start a business. Relocate a business here. Make a life here.
Woodstock. It's real.**



Woodstock's signature event, Summer in the Park, will be held July 17-21, 2019 throughout Woodstock

Sponsored by the City of Woodstock, this five-day festival has something for everyone: music and concerts, children's entertainment, food court and beer garden, bouncies and other children's activities, pool party, bags tournament, Movie in the Park and much more! #RealWoodstock is about spending the summer with friends and family.





RELEVANT
EXPERIENCE

Chicago Avenue

Oak Park, Illinois

TERRA Engineering, Ltd.

TERRA provided lighting / electrical engineering and landscape architectural services as a part of a streetscape project being designed by the Village of Oak Park. The lighting aspect consisted of ornamental street and pedestrian lighting. The landscape architecture aspect consisted of fixture / street furniture selection, inlaid sidewalk and recommendations for tree removal and infill. The design was intended to tie-in a commercial district with the Frank Lloyd Wright Home and Studio.

Client

Village of Oak Park

Services Provided

Transportation Engineering, Landscape Architecture

Reference

Bill McKenna, PE

Village Engineer

Village of Oak Park

201 South Boulevard

Oak Park, IL 60302

708.358.5700

mckenna@oak-park.us





South Boulevard TCSP Program

Oak Park, Illinois

TERRA Engineering, Ltd.

TERRA provided Phase I and Phase II engineering for a streetscape design on South Boulevard from Harlem Avenue to just west of Marion Street. Responsibilities included developing detailed roadway and lighting improvement plans. The project included upgrades of ADA pedestrian crossings and traffic signals at Harlem. Roadway design includes the reworking of the Harlem / South intersection adding a westbound to southbound left turn lane on South Boulevard. Lighting and utility work are also included.

Preliminary and final design work consisted of plan preparation including survey, utility coordination, sewer / water main improvement plans, pavement / sub-base designs, electrical plans, and summaries of quantities. These tasks required extensive coordination with all utilities, CTA, Pace Bus, Union Pacific Railway, Metra and the Village of Oak Park. Special coordination was conducted with material suppliers to create project specific details for the installation of granite curb and gutters, granite crosswalks, clay-baked pavers in the streets and bluestone sidewalks.

Parking for bicycles were provided as a part of the streetscape design. The bicycle shelters and an accessible bike route were placed in close proximity to the CTA Green Line entrance.

Client

Village of Oak Park

Services Provided

Municipal Engineering, Landscape Architecture, Traffic Engineering / Studies, Surveying, Transportation Engineering

Reference

Bill McKenna, PE | Village Engineer

Village of Oak Park

201 South Boulevard, Oak Park, IL 60302

708.358.5700 / mckenna@oak-park.us





Marion Street Streetscape

Oak Park, Illinois

TERRA Engineering, Ltd.

TERRA performed preliminary and final design as well as construction administration services for the complete streetscape overhaul of several blocks of South Marion Street. Preliminary and final design work consisted of plan preparation including survey, utility coordination, sewer / water main improvement plans, pavement / sub-base designs, electrical plans, and summaries of quantities. These tasks required extensive coordination with all utilities, CTA, Pace Bus, Union Pacific Railway, Metra and the Village of Oak Park. Special coordination was conducted with material suppliers to create project specific details for the installation of granite curb and gutters, granite crosswalks, clay-baked pavers in the streets and bluestone sidewalks. Work also required permitting and coordination with regulatory agencies including the IEPA, Illinois Historic Preservation Agency (IHPA), and MWRDGC.

Construction administration consisted of plan review, coordination with residents and businesses, construction observation, construction documentation, design and implementation of all field design changes and completing the project close-out punch list. TERRA supplied a full-time resident engineer for the project. The project was completed on time on an aggressive schedule.

Client

Village of Oak Park

Services Provided

Transportation Engineering, Traffic Engineering/ Studies, Construction Engineering, Surveying, Public Involvement

Reference

Bill McKenna, PE | Village Engineer

Village of Oak Park

201 South Boulevard, Oak Park, IL 60302

708.358.5700 / mckenna@oak-park.us





Kenilworth's Infrastructure Program

Kenilworth, Illinois

TERRA Engineering, Ltd.

TERRA is providing construction management services for the Village of Kenilworth's Infrastructure Program. The project includes roadway reconstruction with permeable pavement, storm sewer installation, water main replacement, combined sewer repairs and lining, curb and gutter, porous parkway areas, underdrains, street light pole replacement, erosion and sediment control, parkway restoration, and sidewalk installation.

Kenilworth suffered a flooding event in 2008 that caused the Village Board of Trustees to identify and mitigate the causes of sewer surcharging and flooding. Kenilworth had a combined sewer system that allowed for stormwater mixing with sewage causing a surcharge of water and sewage into basements, streets, and Lake Michigan. A new sewer system was constructed allowing them to avoid the integration of stormwater into the sanitary sewer and Lake Michigan. The Green Infrastructure costs for this project were supported in part due to the generous support of the Metropolitan Water Reclamation District of Greater Chicago.

Client

Village of Kenilworth

Services Provided

Landscape Architecture, Municipal Engineering, Construction Engineering

Reference

Patrick Brennan

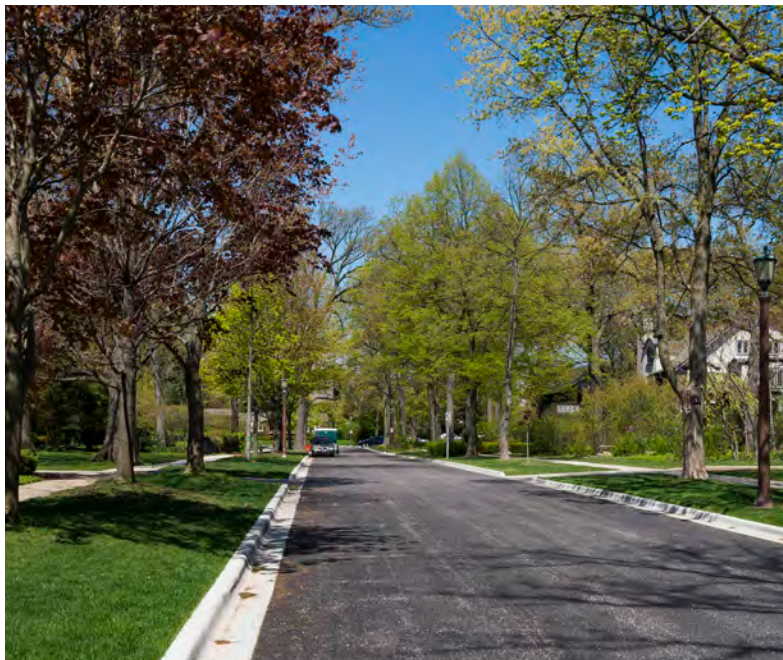
Village of Kenilworth

419 Richmond Road

Kenilworth, IL 60043

847.251.1666 / pbrennan@villageofkenilworth.org





Illinois American Water Clarewood Watermain Reconstruction

Peoria, Illinois

TERRA Engineering, Ltd.

TERRA provided design and permitting services for water main removal and replacement of approximately 2,500 lineal feet of water main in Peoria, Illinois for the Illinois American Water Company (ILAWC). TERRA created construction drawings and specifications for the abandonment in place of an existing asbestos concrete water main and replacement of the abandoned water main with an 8-inch ductile iron pipe (DIP) water main. This project also added five fire hydrants and transferred more than 39 single-family home services to the new water main. TERRA also provided construction administration and construction surveying during the installation of the water main. The project was completed on a tight schedule and included water sampling and record drawings.

Client

Illinois American Water Company

Services Provided

Municipal Engineering, Construction Engineering

Reference

Christian Volz, PE, LEED AP

Senior Engineer

Illinois American Water Company

7500 N. Harker Drive

Peoria, IL 61615

309.566.4114 / christian.volz@amwater.com





Wheaton Strategic Downtown Plan

Wheaton, Illinois

Design Workshop

Design Workshop led a multi-disciplinary team in creating a new strategic and streetscape plan for Downtown Wheaton, Illinois, a community of approximately 53,000. The design team worked with community members and stakeholders to develop an updated vision for Downtown for the next 20 years. The plan was focused on creating a vibrant destination district.

The consultant team outlined recommended short term and long term improvements for the Downtown area and worked with the community to identify priorities and a strategic plan for implementation, tied to the City's capital improvement program.

Design Workshop and the City hosted focus groups with key stakeholders, including business leaders, key tenants, and neighborhood representatives, and used the results of these meetings to create recommendations for the plan. Design Workshop is currently working with the City to implement the streetscape recommendations from the Strategic Downtown Plan by developing the conceptual design for all streets in the downtown and construction documents for Front Street, slated for construction in 2017.

Outcomes

The completed plan identified infrastructure improvements, streetscape enhancements, and soft programming improvements the City will complete over the next 5, 10, 15 and 20 years.

Client

City of Wheaton

Services Provided

Public Engagement, Land Use Planning, Streetscape Design, Strategic Planning



Wheaton Downtown Association and
Sean Henderson Photography



Wheaton Downtown Association and
Sean Henderson Photography



Lincoln P Street

Lincoln, Nebraska

Design Workshop

Design Workshop lead a large multi-disciplinary design team of traffic engineers, graphic designers, local landscape architects and civil engineers, lighting designers and retail consultants to create a comprehensive master plan for this 26-block portion of downtown Lincoln.

This master plan included an extensive public outreach effort including public meetings and an online forum for comments to develop suggestions for transit solutions, public art programs, building setbacks and first floor land use, retail development strategies, open space creation, and pedestrian realm detail design. The master plan responds to the various stakeholder needs and neighborhood characteristics.

The corridor traverses through four major areas of downtown including a historic train depot district, a retail heavy area, a prominent linear park, and an up and coming residential area adjacent to a large regional park. The design team also developed detailed design and construction documentation for a six block portion of the master plan that encompasses the "Retail Core".

Outcomes

This detailed design integrates a number of sustainable and custom elements including street side rain gardens that capture water from the street and sidewalks, native limestone benches, lighting banner poles, and permeable paving. This design has initiated a new paradigm of traffic design in Lincoln by shrinking the footprint of the road from over eighty feet to sixty-two feet while maintaining current and projected traffic volumes and adding on street parking.

Client

City of Lincoln

Services Provided

Master Planning, Urban Design, Landscape Architecture, Public Outreach & Facilitation





Bagby Streetscape

Houston, Texas

Design Workshop

The Midtown Redevelopment Authority, as an extension of the City of Houston, retained Design Workshop to be their landscape architect and urban designer responsible for the strategic vision, design and implementation of their annual Capital Improvements Program. Design Workshop has led this effort with the specific goal in mind in leveraging the capital improvements plan to ensure specific goals of the Midtown Strategic Plan are met. Therefore, as capital improvement dollars are spent, they become an investment that allows for other goals and policies to become fully realized.

Because Midtown's unique location between downtown Houston and the Texas Medical Center, and along a light rail lane, residents have access to over 250,000 jobs within a 10 minute commute. The four primary components of the capital improvements plan include streets, parks, parking facilities and affordable housing. Bagby Street, a signature street of the capital improvement campaign, has been awarded nine awards across the United States, most notably, 2014 ACEC National Honor, 2014 Texas ASLA Presidential Award of Excellence, 2014 Texas APWA Honor Award, and 2014 CNU Best Street in the United States.

Outcomes

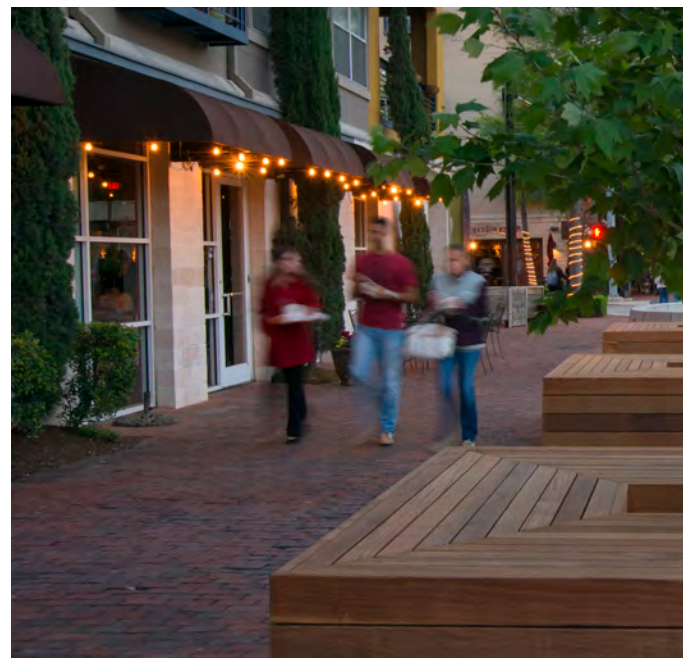
In Midtown's case, where a goal of redevelopment and densification is at the heart of the strategic plan, for every capital improvement dollar implemented \$7.38 has been returned to the district in the form of private redevelopment.

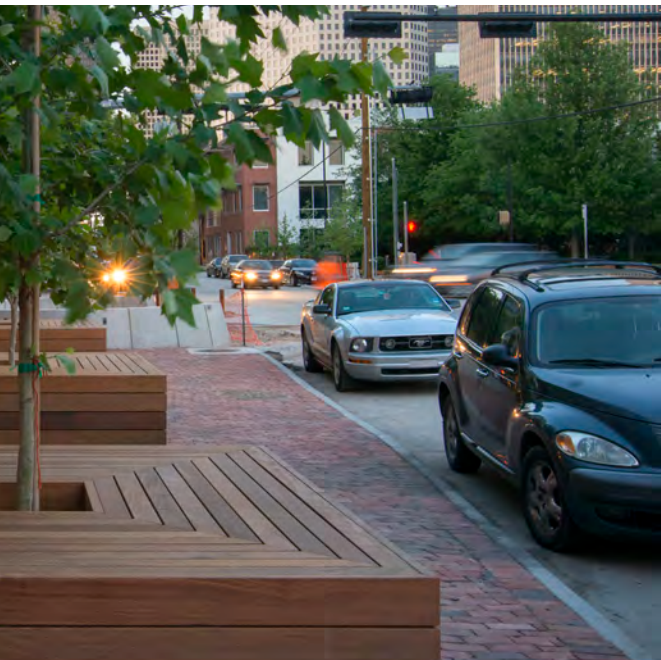
Client

Midtown Redevelopment Authority

Services Provided

Park & Open Space Planning, Community Outreach, Streetscape Design, Park Design





Cherry Creek North & Fillmore Plaza

Denver, Colorado

Faced with high maintenance costs, deteriorating infrastructure, tired aesthetics and competition from the adjacent indoor mall, the property owners of the 16-block Cherry Creek North retail district saw an opportunity to reinvigorate this key retail destination as Colorado's premier outdoor shopping district.

Outcomes

Retail is the life blood of this district and increasing "dwell" time for shoppers was important for the local businesses. To that end, "The New North" revitalized the existing landscape by preserving trees and major lawn areas while also creating a new graphics/ signage, pedestrian lighting, public art and special public spaces that motivate people to return often.

Client

Cherry Creek North Business Improvement District

Services Provided

Urban Design, Landscape Architecture, Signage & Wayfinding, Construction Administration





Improvement of Harlem Avenue under Union Pacific Railroad

River Forest, Illinois



Client:
Village of River Forest

Owner:
Village of River Forest

Services Completion Date:
12/2019

Role: Prime

Construction Amount:
\$25,000,000

Lochner was selected to provide professional services for the planning and Phase I engineering for this bridge replacement project. The existing bridge was constructed in 1915, and while the viaduct has largely remained unchanged, train, pedestrian, and auto traffic have steadily increased. Thus, the study is intended to produce several results, including assessing options for alleviating congestion on Harlem Avenue and area side streets and improving area aesthetics to produce a "gateway" effect for all three Villages.

The primary improvement will be the reconstruction of the bridge from a four-span structure to a single-span structure, which does not require center and sidewalk column supports. This structure will allow construction of a fifth traffic lane, intended to reduce congestion. Providing wider sidewalks that are more appealing to pedestrians will also be studied. Harlem Avenue passes under a Union Pacific bridge with three tracks that carry 40-50 freights and 60 Metra trains on an average weekday. In addition, there are two CTA tracks and a passenger platform on the south third of the structure. The proposed replacement structure will consist of four through plate girder ballasted deck bridges on drilled shaft foundations. Since maintaining train operations is critical, a staging plan has been developed to shift the north two UP tracks onto a temporary shoofly and bridge while shifting the third UP track to the alignment of the center UP track. This will provide a work area where the CTA structures can be constructed one track at a time and then rolled into their final location with minimal disruption to CTA service.

Due to the large number and diverse interests of project stakeholders, a steering committee is being utilized to oversee the study. The steering committee's main function will be continuous and effective coordination between the affected municipalities, other private and public agencies, the Union Pacific Railroad, Metra, the CTA, and private utilities and interests. The steering committee is a component of the Public Involvement program that has been developed for this project. Based on the concepts embodied in Context Sensitive Solutions, the character and context of the project area will be discovered and defined through a variety of techniques and exercises. An understanding of the context will then be used to shape the proposed improvements to best enhance the area's key features and to introduce new elements as desired by the project stakeholders.

The engineering studies include the evaluation of existing conditions, development of new alternative bridge and roadway schemes, capacity and crash studies, maintenance of both roadway and railroad traffic, preparation of preliminary cost estimates, and a Project Development Report.

South Water Street Viaduct Rehabilitation, Stetson Avenue to Beaubien Court Chicago, Illinois



Client: Chicago Department of Transportation

Owner: Chicago Department of Transportation

Services Completion Date: 12/2020

Role: Prime

Construction Amount: \$8,740,000

The South Water Street viaduct runs from Stetson Avenue to Beaubien Court in downtown Chicago—a distance of approximately 375 feet. The 12-span, two-level rigid concrete structure, supported by concrete piers, is 92 feet wide and carries three travel lanes in each direction, as well as two parking lanes, a median, and sidewalks. The Two Illinois Center office building is situated directly above the viaduct. The viaduct is showing evidence of deterioration, and Lochner was selected to provide Phase I and II engineering services for its rehabilitation.

Lochner's Phase I services included a detailed bridge inspection and the development of a structural condition report. Lochner also prepared preliminary design, maintenance of traffic, and construction staging plans for the replacement of the structure. Lochner coordinated all on-site activities with the owners of Two Illinois Center. Lochner also assisted the Chicago Department of Transportation in its public involvement activities for the project to gather feedback from the public and other local stakeholders. In addition, Lochner completed all other required Phase I civil engineering tasks, including preliminary intersection, traffic, utility, and drainage studies; a preliminary environmental site assessment; and planning and environmental survey request forms. Lochner's Phase II services include detailed structural and civil design, production of contract plans and specifications, and continued coordination with project stakeholders.

SERVICES

- Bridge Replacement
- Project Development and Environment (PD&E) Study
- Bridge Inspection - Routine (Periodic)
- Structural Analysis
- State/Federal Funding Procedure Compliance
- Utility Coordination
- Highway/Roadway Design
- Final Plans, Specifications, and Estimates (PS&E)
- Reinforced Concrete Flat Slab Bridge Design
- ADA Facility Evaluation/Design
- Structural Load Rating Analysis
- Accelerated Schedule
- Stormwater/Pavement Drainage Design
- Intersection Analysis/Design
- Streetscape Design
- Pedestrian Crossing Design (At-Grade)
- Construction Support Services
- Existing Conditions Analysis



Preliminary Engineering for 31st Street from IL Route 83 to Jorie Blvd.

DuPage County, Illinois

Within a quarter-mile stretch, 31st Street crosses the IL 83 diamond interchange and intersects with Jorie Boulevard, the main access into McDonald's Campus (Hamburger University). Therefore, traffic on 31st Street traverses three traffic signals within a quarter-mile and, combined with the high volumes of traffic entering and exiting McDonald's Campus during peak hours, significant backups on the route are common. These backups are exacerbated by a lack of synchronization between the signals at the Jorie Boulevard intersection and those at the IL 83 interchange.

In a federally funded, state-administered local agency project, Lochner is conducting a traffic study on the road network in this area and generating recommendations to improve the traffic flow and minimize backups. Lochner's subconsultant conducted an enhanced origin-destination study that followed individual license plates to identify detailed information on exit and entry points, weave movements, and areas of conflict. Lochner is using this information to develop its recommendations for geometric improvements and the modernization of the traffic signals. Lochner is also assisting the County in presenting those recommendations at several informational meetings to gain stakeholder and community feedback. Lochner is preparing preliminary design plans and a project development report for submission to the County and the Illinois Department of Transportation.

As a second component of the project, Lochner is providing preliminary design and cost estimates for the grinding and resurfacing of a 3.5-mile, five-lane section of 31st Street, from Meyers Road to York Road. In addition, Lochner is evaluating the five signalized intersections located on this stretch of roadway and identifying any improvements needed to bring the pedestrian ramps and push buttons into compliance with the Americans with Disabilities Act. Lochner is including all the necessary upgrades in its preliminary design and documentation.

**Client: DuPage County
Division of Transportation**

**Owner: DuPage County
Division of Transportation**

**Services Completion Date:
09/2019**

Role: Prime

**Construction Amount:
\$3,000,000**

SERVICES

- Transportation Operations Analysis
- Traffic Simulation
- Capacity Analysis
- Traffic Signal Coordination
- Intersection Analysis/Design
- Safety Study
- Highway/Roadway Design
- Stormwater/Pavement Drainage Design
- Best Management Practices
- Right of Way Evaluation

7th Avenue Pavement Evaluation

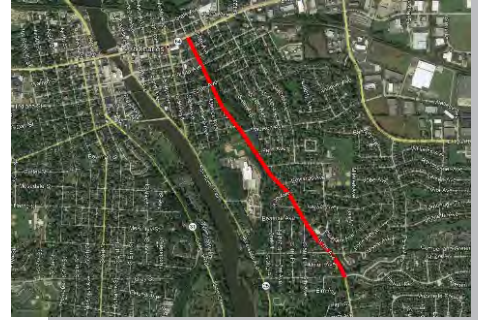
Client: City of St. Charles

CTL Project Number: 18EG214

Location: St. Charles, IL

Services Provided: Geotechnical Engineering Services

Project Description: CTL performed a pavement investigation and evaluation for the proposed roadway resurfacing on 7th Avenue from Main Street (IL 64) to Division Street in St. Charles, IL to determine the existing conditions and the engineering properties of the pavement, subbase and subgrade. The pavement evaluation included documenting the existing pavement for material type, thickness, coefficients, structural number and overall structural value. The evaluation also included documenting the type and thickness of the aggregate subbase as well as the type and strength (Q_u) of the subgrade soils.



East New York Street Roadway Widening and Reconstruction

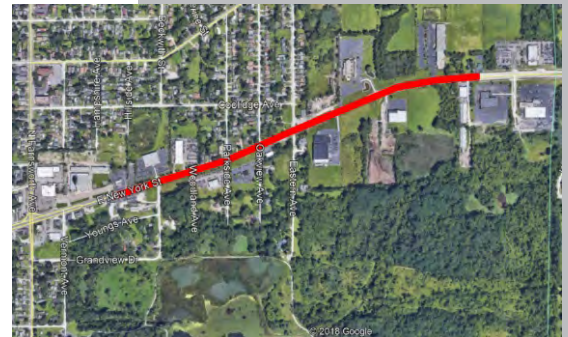
Client: City of Aurora

CTL Project Number: 18EG213

Location: Aurora, IL

Services Provided: Geotechnical Engineering Services

Project Description: CTL performed a geotechnical subsurface investigation for the proposed roadway widening and reconstruction of East New York Street between Farnsworth Avenue and County Line Road in Aurora, IL. Geotechnical analyses were performed on the soils encountered to determine roadway design recommendations including frost susceptibility, subgrade support rating (SSR) and organic content per the IDOT Geotechnical Manual. Construction recommendations included remediation recommendations for areas containing unsuitable soils as well as drainage recommendations. Design and construction recommendations were also performed for two proposed retaining walls being constructed for the roadway widening.



Kenilworth Storm Sewer Improvements

Client: Village of Kenilworth

CTL Project Number: 19F200

Location: Kenilworth, IL

Services Provided: Geotechnical Engineering Services



Project Description: CTL performed a geotechnical subsurface investigation for the proposed storm sewer improvements to on Raleigh Road, Leicester Road and Warick Road from Kenilworth Avenue to Oxford Road and on Oxford Road from Warick Road to Sheridan Road in Kenilworth, IL. The purpose of the investigation was to obtain subsurface soil samples to characterize and determine the soil properties, determine the groundwater conditions and provide analyses and recommendations for the proposed improvements. Geotechnical analyses were performed on the soils encountered to determine the existing soil parameters to use in the design including stormwater structure bearing capacity as well as temporary earth structure lateral load resistance.

a5 Client Experience

a5 offers broad and deep experience working with the public and private sector to tell compelling stories and generate results.

Communities

Downtown Cuyahoga Falls, Ohio
Downtown Oak Park
City of Toledo, Ohio
Lucas County, Ohio
Kent, Ohio
Charlevoix, Michigan
City of Flint, Michigan
City of Elgin, Illinois
Village of Oak Park, Illinois
City of Woodstock, Illinois
Village of Richton Park, Illinois
Village of New Lenox, Illinois
Village of Hanover Park, Illinois
Village of Niles, Illinois
Village of Barrington, Illinois
Village of Gurnee, Illinois
Village of Algonquin, Illinois

Economic Development

Lake County Partners
Rogers Park Business Alliance
Oak Park Economic Development Corp.
South Elgin Economic Development

Arts & Cultural Organizations

Field Museum
Oak Park Sculpture Walk
ArtReach at Lill Street
ArtRageous
Illinois Humanities (through EPIC)
New City
Garfield Park Conservatory Alliance
Chicago Children's Museum
Wonder Works Children's Museum
Betty Brinn Children's Museum
Bradbury Carnegie Museum
Great Explorations Children's Museum
AIGA (professional organization for design)
Milwaukee Public Museum
Chicago Architecture Foundation

Engineering, Planning, Architecture, Landscape Architecture

Hull
Houseal Lavigne Associates
American Society of Landscape Architects
Illinois and Michigan chapters
Mariani Landscape
Christy Webber Landscapes
Foster Dale Architects
Nevin Hedlund Architects
AIA Chicago
Congress for the New Urbanism
Environmental Law & Policy Center

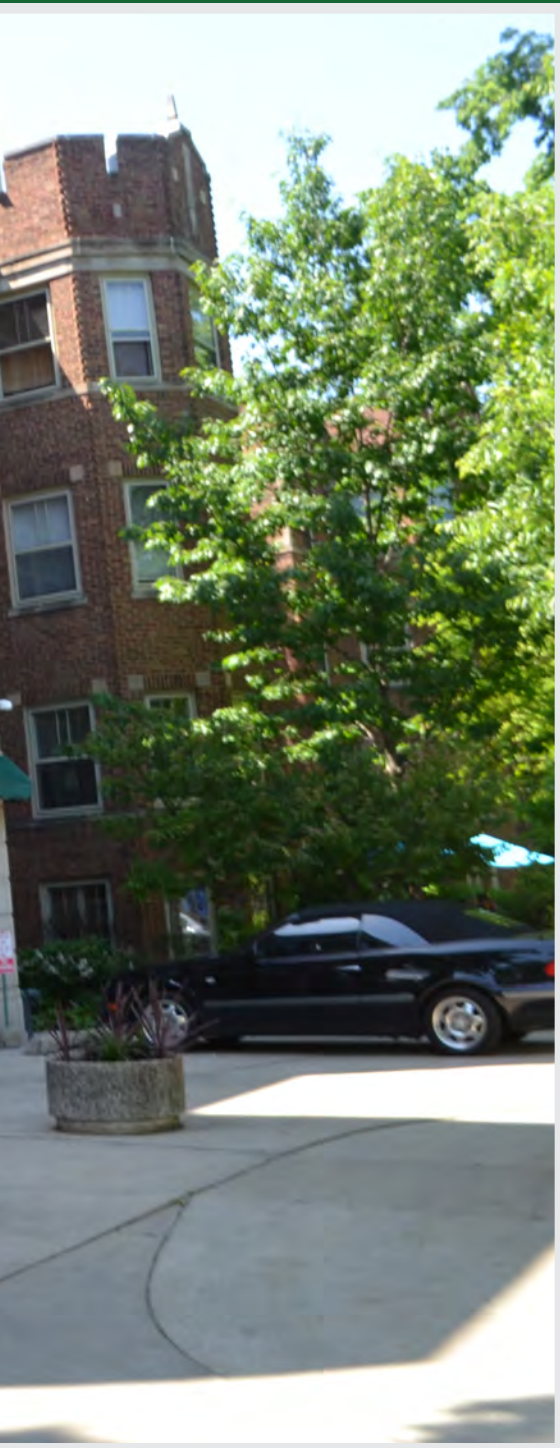
Tourism & Attractions

Go Rockford
Visit Oak Park
Illinois Route 66
Tampa Downtown Partnership
Promote Woodstock

Non-profits

Michigan League of Conservation Voters
Midwest Pesticide Action Center
Seven Generations Ahead
World Wildlife Fund
CNT (Center for Neighborhood Technology)
Dystonia Medical Research Foundation
Rolfe Pancreatic Cancer Foundation
Holocaust Memorial Foundation of Illinois
Unity Temple Restoration Foundation
World Wildlife Fund
Chicago Community Trust
MacArthur Foundation
Wege Foundation
Community Foundation Oak Park-River Forest
Triton College Foundation
UI Labs
Oak Park Homelessness Coalition





STATEMENT OF COMMITMENT

TERRA is fully prepared and committed to providing the services needed as outlined in the RFP for Professional Engineering Services for **Oak Park Avenue**. The personnel assigned in this proposal will be available for the entire duration of the project, except where prevented by circumstances beyond their control. We believe our team's knowledge and skills will provide the successful and efficient completion of all services requested.

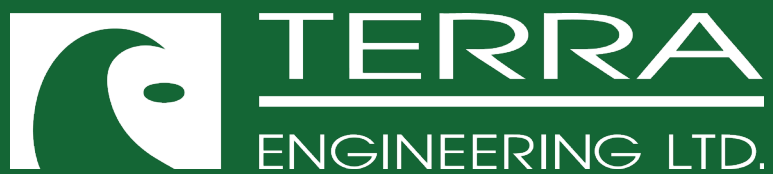
OBJECTIONS

Having read and understood the materials and services requested, TERRA has no objections to any terms of the request for proposal.

FORMS AND CERTIFICATIONS

We have provided original notarized copies of the certification and compliance forms and they are saved in the Professional Engineering Services package along with the compensation schedule and hourly rates.

Jamil Bou-Saab, P.E.
Executive Vice President



CHICAGO | OAK PARK | PEORIA | MILWAUKEE | ST. LOUIS | GRAYSLAKE

www.terraengineering.com