Original

Request for Qualifications (RFQ)

Project Number - WO6365170
FAP Number - AC-NHPP-327-1(37)N
US 113 (Phase 3) - from North of Massey Branch to Five Mile Branch Road
Worcester County

Due: July 9, 2014

GEORGE & LYNCH

150 Lafferty Lane, Dover, Delaware 19901 302.736.3031

TABLE OF CONTENTS

Cover Letter (2 Pages Max)

A. Lead Design Firm Experience/ Qualifications and Past Performance (15 Pages Max)

Form A-1 (Key Staff and Discipline Leads) 1

i. Key Staff Experience – Key Design Firm (one page each) 2-8
1. Project Design Manager
2. Hydrological/ Hydraulics Design Engineer
3. Geotechnical Design Engineer
4. Landscape Architect
5. Highway Engineer
6. Traffic Engineer
7. Structural Engineer

ii. Past Performance 9-15
1. Form A-2 - Three Projects
2. Environmental Past Performance

B. Lead Construction Firm Experience/ Qualifications and Past Performance (11 Pages Max)

Form A-1 (Key Staff and Discipline Leads) 16

i. Key Staff Experience – Key Construction Firm (one page each) 17-19
1. Design Build Project Manager
2. Construction Manager
3. Design/ Construction Liaison

ii. Past Performance 20-25
1. Form A-2 - Three Projects
2. Environmental Past Performance

C. Project Understanding and Team Organization (6 Pages Max)

i. Team's Understanding of the Project Scope 26-28
ii. Team's Approach 28-30
iii. Organizational Chart 31

Lead Design Firm

FORM A- 1 – Lead Design Firm

PROPOSED KEY STAFF INFORMATION

Name of Proposer: **George & Lynch, Inc.**

Position	Name	Years of Experience[1]	Education/ Registrations	Name of Employer
Project Design Manager	William F. Conway, P.E	17/ 17	BS/ PE	Century Engineering, Inc.
Hydrological/ Hydraulic Design Engineer	Craig A. Lynch, P.E.	2/19	BS/ PE	Century Engineering, Inc.
Geotechnical Design Engineer	Paul A. D'Amato, P.E.	32/ 36	ME, BS/ PE	Century Engineering, Inc.
Landscape Architect	Joan Floura, PLA, LEED AP	14/ 24	BLA/ BED	Floura Teeter Landscape Architects, Inc.
Highway Engineer	Vien M. Thai, P.E.	19/ 19	BS/ PE	Century Engineering, Inc.
Traffic Engineer	Troy M. Holloway, P.E., PTOE	15/ 20	MS, BS/ PE, PTOE	Century Engineering, Inc.
Structural Engineer	Christopher J. Minick, P.E.	20/ 31	BS/ PE	Century Engineering, Inc.

[1] Present Firm/ Total

Century Engineering, Inc.

William F. Conway, P.E.
Project Design Manager

Registration
2006 P.E. Maryland Registered No. 32942

Education
B.S. 1997 Civil Engineering, University of Delaware

Training/ Certifications: DE Sediment & Stormwater Construction Reviewer, 2001

Years of Experience 17

Experience and Qualifications
Mr. Conway is a Vice President with Century Engineering and is in charge of the Highway Division in our Delaware office. He has over 17 years of transportation design and planning experience throughout Maryland and Delaware to provide project development and design services, including the design and preparation of construction and right of way plans, technical review of plans, preparation and review of environmental compliance documents, specifications and estimates, and final bid packages. He understands the interconnectivity and communication of the various project disciplines required for project success. He is experienced with the overall planning and design components of transportation systems, including: environmental planning, permitting, wetland mitigation design, highway design, complex intersection design, railroads, utilities, site grading, drainage, erosion and sediment control, signage, lighting and signals.

SR1, Little Heaven Grade Separated Intersection, Kent County, DE. Project Manager for the preparation of construction documents for this DelDOT project that includes 2 miles of new limited access highway with separate northbound and southbound 2-way service roads, a grade separated intersection over a side road, along with the corresponding service roads connecting Barratt's Chapel Road, Clapham Road, and Bowers Beach Road. Work involved necessary field review, engineering recommendations, and preparation of construction and right-of-way plans. This project also included extensive on-going public outreach, development of renderings and visualizations, construction staging, scheduling, detour analysis, environmental coordination, utility coordination, traffic analysis and preparation of the Environmental document.

SR1, South Frederica Grade Separated Intersection, Frederica, DE. Project Manager on this DelDOT project that involves the improvement of the existing intersection of Tub Mill Pond Road, Milford Neck Road, and Frederica Road to include a Grade Separated Intersection over SR1. Mr. Conway coordinated the development and analysis of five proposed alternatives that were presented to the public and selection of the preferred alternative. The project design requires coordination with proposed development, Environmental Resource Agencies, and FHWA. Refinements of the designs were based on environmental coordination, traffic volumes, traffic analysis, and design speeds.

SR26, Atlantic Avenue & Detour Routes Improvements, Sussex County, DE. Mr. Conway is the Project Manager for these DelDOT projects that involve upgrading Atlantic Avenue, a 4.5 mile minor arterial roadway that bisects the beach resort communities of Millville and Ocean View and the accompanying SR26 Detour Routes Improvements, a 5.5 mile series of major collector roads that were upgraded to support the detoured traffic during Atlantic Avenue Reconstruction. The projects involve extensive utility relocation/ coordination, culvert design, traffic analysis and public outreach, including the public, resource agencies, community groups and legislators, utility companies and a steady stream of privately developed site plans.

US Route 113 Bypass – Design Build Project from Route 50 to Road 589, Wicomico County, MD. Design Engineer on this Design-Build Team that included the construction of a five (5) mile section of dual highway including various interchange ramps. Mr. Conway was part of the team responsible for the detailed engineering design of the five mile dual highway improvements, which included the detailed construction documents, utility coordination, innovative stormwater management design, pavement design and continuous coordination with the various environmental resource agencies, SHA and District.

Mansion Road and Brooklyn Park Community Reconstruction Projects, Anne Arundel County, MD. Project Manager responsible for overseeing the concept plan development through the detailed engineering design for specific road reconstruction improvements. This project consisted of the redevelopment of multiple existing subdivision streets located throughout different communities in Anne Arundel County.

Century Engineering, Inc.

Craig A. Lynch, P.E.
Hydrological/ Hydraulics Design Engineer

Registration
2001 P.E. Maryland Registered No. 28371

Education
B.S. 1992 Civil Engineering, Virginia Polytechnic Institute & State University

Training/ Certifications: Rosgen Levels I-V; MSHA Erosion Sediment Control Certified, 2005; Lorman Design of Stormwater Ponds in Maryland, 2006 (Instructor); FHWA River Engineering for Highway Encroachments, 2004; MDSHA Highway Hydraulics Division Stormwater Management Workshop, 2003; FHWA Stream Stability and Scour at Highway Bridges, 2002; Advanced HEC-RAS, 2001; FHWA HEC-RAS, 1999

Years of Experience 19

Experience and Qualifications

Mr. Lynch has experience in all aspects of water resources and permitting for various federal, state, local, and private clients. His experience includes: BMP assessment and retrofit design for NPDES compliance; illicit discharge outfall screening, sampling, source tracking; storm drain and SWM facility asset inventory, inspection/ rating; SWM facility assessments, SWM design (ESD to MEP); drainage complaint remediation; stream assessment and restoration; H/H analyses; erosion/sediment control; technical reviews; environmental permits; public outreach; Critical Area Commission coordination; construction oversight; preparation of construction documents. Mr. Lynch has experience in stream, wetland and nutrient mitigation banking and post-construction monitoring with the North Carolina Ecosystem Enhancement Program (NCEEP). Mr. Lynch is familiar with local, MDE, CAC, MSHA policies and criteria; MicroStation, TR-20, TR-55, ArcGIS, GISHydro2000, HY-8, HEC-HMS, HEC-RAS, ABSCOUR, HEC-18.

I-95 @ Contee Road Design-Build and Virginia Manor Road, Maryland State Highway Administration, H&H Project Engineer providing GEC and technical review services for SWM, erosion and sediment control and coordination for the I-95 at Contee Road Interchange Design/ Build and the Virginia Manor Road projects. The stormwater management designs include reviews based on the 2000 Maryland Stormwater Management Design (Revised 2009) Manual and the Stormwater Management Act of 2007 that requires implementation of Environmental Site Design (ESD) to the Maximum Extent Practicable (MEP). Erosion and Sediment Control reviews are based on MDE's 2011 Maryland Standards and Specifications for Soil Erosion and Sediment Control. Also provided technical review for Contractor RFIs and H&H review for developer access permits.

Maryland SHA Highway Hydraulics, Stormwater Management BMP Inspection & Remediation, Water Resources Engineer. Conducted field inspection for more than 100 BMPs in Anne Arundel, Montgomery and Howard counties to evaluate compliance with National Pollutant Discharge Elimination Systems (NPDES) requirements. Collaborated with MSHA staff to develop BMP rating and inventory system in GIS. Work included preparing inspection reports and recommendations for remediation. Additionally, provided design, construction cost estimates and construction inspection for facilities selected for remediation.

Highway Hydraulics, Outfall Assessment and Prioritization for NPDES Program, MSHA MD 5, Prince Georges County, MD. Project Manager for the inspection of more than 250 storm drain outfalls. Work included updated SHA GIS database. The investigations are intended to identify SHA infrastructure that requires maintenance and recommend repairs. The project is also intended to identify unstable channels, which can be repaired to prevent future erosion and downstream sediment transport. The credits available for preventing future sediment transport will be utilized to meet SHA TMDL goals.

Exposed Pipe Protection and Required Stream Restoration, WSSC, Water Resources Project Engineer for four assignments: two emergency repair sites involving exposed sewer manholes; one emergency repair site involving an exposed 36" water line crossing a tributary to Northwest Branch on MNCPPC property; seven exposed utility lines/ protection sites along a one mile reach of Oxon Run. Work included stream assessment/ rehabilitation for Oxon Run and tributaries, NRI/ FSD/ FCP, watershed H/H modeling, permitting, construction documents, construction inspection, and monitoring.

Water Resources Engineering, Montgomery County On-Call, MD. Project Manager for water resource/ NPDES related tasks involving: NPDES SWM retrofits for 8 BMPs for water quality (WCv and CPv); H/H modeling; plans; reports; estimates; permitting; NRI/ FSD/ FCP; erosion control; public outreach; surveys/ plats, geotechnical, structures, and construction phase services.

Century Engineering, Inc.

Paul A. D'Amato, P.E.
Geotechnical Design Engineer

Registration
1980 P.E. Maryland Registered No. 12018

Education
M. E. 1977 Geotechnical Engineering
University of Maryland
B.S. 1975 Civil Engineering, University of New Hampshire

Years of Experience
36

Experience and Qualifications
Mr. D'Amato has experience in various aspects of geotechnical engineering, including planning and managing field investigations (borings, test pits, in-situ testing, geophysical investigation), laboratory testing, conducting analysis and preparing geotechnical reports.

SR-1 Little Heaven Grade Separated Intersection, Kent County, DE. Project Geotechnical Engineer, the project involved the widening of 2.7 miles of SR-1 from 2 lanes to 4 lanes and constructing a new bridge for a grade separated intersection. The project also included the widening and realignment of other intersecting roadways, several MSE retaining walls, and the construction of several stormwater management facilities.

I-695 Beltway Widening at Wilkens Avenue Interchange, Baltimore County, MD. This project involved widening of the inner loop of the I-695 Beltway at Wilkens Avenue for the Maryland SHA. A geotechnical investigation was performed for the replacement and widening of the inner loop bridge over Wilkens Avenue. This involved replacing an existing 4-span bridge with a width of approximately 66 feet with a new 2-span bridge with a width of approximately 111 feet. A combination of drilled piers and spread footing foundations were recommended for the foundations of the new bridge.

Honeygo Boulevard – Phase II, IIIA & IIIB, Baltimore County DPW, MD. Geotechnical Engineer. Performed subsurface exploration and geotechnical evaluation for the proposed Honeygo Boulevard Extension from Joppa Road to Perry Hall Farms. The project consists of 1,645 l.f. of four-lane divided roadway, and includes storm drainage systems and stormwater management (SWM) facilities. We determined soil and groundwater conditions along the proposed alignment and at the proposed SWM facilities. Reported findings and provided recommendations for earthwork, subgrade stabilization, flexible pavement design, roadway drainage systems and SWM facilities.

Warren Road, Baltimore County, MD. Project Engineer Geotechnical investigation for widening and realignment of a section of Warren Road. The project included the design of a cantilever retaining wall to support a 30-foot high cut slope. His duties included borings, design for cut slope, designed foundation options of various retaining wall types.

Baltimore-Washington Parkway, MD. National Park Service. Geotechnical Engineer. Upgrading and widening of 6 miles. This project included evaluation of the existing pavement and subgrade using Ground Penetrating Radar and drilling over 100 test borings, obtaining 30 pavement cores, conducting laboratory testing on soil and pavement samples and preparation of geotechnical engineering report for the project. The report included recommendation for retaining walls, foundation for bridge structures and sign structure, identifying limits for roadway underdrains, cut and fill slope design, and recommendation for stormwater management facility and designs for rigid and flexible pavement system options. Special task included excavation of test pits at two bridge abutment to expose timber pile and evaluation of the condition of the timber piling.

US 29 - Briggs Chaney Road Interchange, MSHA, Montgomery County, MD. Geotechnical Engineer. The project includes depressing US 29 and raising Briggs Chaney Road. The design required extensive retaining wall system up to 38 feet high. various types of walls included in the design were MSE, cast in place concrete on piles and spread footing and permanent tie back soldier piles walls. The final grade of US 29 was below the ground water table, thus a permanent roadway drainage system was incorporated into the design. Duties also included consultation during construction, shop drawing review, and meetings with the contractor, SHA, and design team.

Ritchie Road, SECTION II, Prince George's County, MD. The project involved the investigation of the rapid failure of a recently constructed pavement for a section of widened roadway. The investigation included pavement core and borings to verify the constructed pavement section, testing the properties of the bituminous paving and base materials, and researching construction and inspection records. It was determined that the bituminous paving was improperly placed and compacted. Reconstruction of the pavement was required.

Floura Teeter Landscape Architects, Inc.

Joan Floura, PLA, LEED AP
Landscape Architect

Registration
1993 PLA Maryland Registered No. 1093

Education
BLA 1990 Landscape Architecture
North Dakota State University
BED 1989 Environmental Design
North Dakota State University

Training/ Certifications LEED accredited, 2008; Basic Wetland Delineation Course, Environmental Concern, 2009

Years of Experience 24

Experience and Qualifications
During her 24 year professional career, Ms. Floura has become known as an expert in highway corridor landscape design and construction in addition to other environmental landscape design projects. Her project experience includes working on multiple design-build projects for the Maryland State Highway Administration and work at Salisbury University. Ms. Floura was the Lead Landscape Architect for the Intercounty Connector Contracts A and B, for which she designed bioretention facilities, native landscape plantings, and streetscapes using Context Sensitive Design/ Solutions.

MD 328 Bridge over Tuckahoe River, Caroline County, MD. Landscape Architect. Ms. Floura was tasked with roadside beautification and the bridge replacement while working within Chesapeake Bay Critical Area mitigation requirements. FTLA also designed screen planting to reduce noise and make the area more visually appealing. This project was successfully completed in July 2012.

MD 287 Bridge over Choptank River, Caroline County, MD. Landscape Architect. Ms. Floura worked alongside the team of engineers while focusing on reforestation planting, modifying the original stormwater management design from a large drainage pond to bioswales which reduced the impact on the forest. The resulting innovative and unique design incorporated linear filtration. Construction Complete 2013.

Intercounty Connector – Contract A, From I-270/I-370 to MD 97, Montgomery County, MD. Landscape Architect. Ms. Floura was the Lead Landscape Architect on the Design-Build team awarded Contract A. Scope of work included landscape planting design, wetland plantings, bike trail, stormwater facilities, development of the overall landscape theme, community presentation support, graphic renderings, and CAD production of the landscape and urban design package. Using the Context Sensitive Design Approach, this project required meeting regularly with stakeholders, studying existing landscape conditions adjacent to the site, and ongoing communication with the public throughout the design and construction process. Working as part of an interdisciplinary team, other tasks included reviewing drawings, reforestation, Task Force Meetings, community presentations, QA/QC, coordination with environmental issues and tracking of overall plant quantities. Ms. Floura also performed construction administration services including the two-year warranty. Construction Complete December 2013.

Intercounty Connector – Contract B, From MD 97 to US 29, Prince Georges & Montgomery Counties, MD. Landscape Architect. Ms. Floura was the Lead Landscape Architect on the Design-Build team awarded Contract B. The FTLA scope of work included landscape planting design, stormwater facility planting, bike trail, bridge abutment plantings, community presentation support, graphic renderings, CAD production of the landscape and urban design package. Working with an interdisciplinary team and using the Context Sensitive Design Approach, Ms. Floura met regularly with stakeholders, led the landscape team in studying existing landscape conditions adjacent to the site, conducted ongoing communication with the public, reviewed drawings, and created the reforestation plans. Ms. Floura was also involved in QA/QC, coordination with environmental issues and tracking of overall plant quantities, and also performed construction administration services including the two year warranty. Construction Complete early 2014.

I-95 at Contee Road Interchange, Prince Georges County, MD. Landscape Architect. Ms. Floura provided definitive design, final design, and construction administration services for this Design-Build project. FTLA has taken a multi-disciplinarian approach for the design of the Contee Road interchange as coordination with roadway, drainage, structural, traffic and environmental engineers has been critical for a successful design. FTLA has also coordinated closely with the landscape subcontractors in plant selection and availability to eliminate the possibility of unnecessary substitutions or changes during installation. This project is currently under construction with completion anticipated Summer, 2014.

Century Engineering, Inc.

Vien M. Thai, P.E.
Highway Engineer

Registration
2001 P.E. Maryland Registered No. 25861

Education
B.S. 1995 Civil Engineering, Univ. of Maryland College Park

Years of Experience
19

Experience and Qualifications
Mr. Thai is a Professional Engineer registered in the State of Maryland with experience in highway design, planning and multi-modal design. His experience includes design and planning for corridor studies, alternative development, reconstruction and resurfacing, roundabouts, urban streetscapes, intersections, pedestrian and bicycle facilities, interchanges, maintenance of pedestrian and vehicle traffic, cost estimating, utility and property owner coordination, public involvement and right of way establishment. Vien is knowledgeable of AASHTO, SHA and local policies and criteria. He has hands-on design experience using MicroStation, InRoads, GeoPak and AutoTurn softwares.

I-95/ Contee Road Interchange Preliminary Design Build Engineering, Prince George's County, MD. Project Design Engineer for preliminary design of a proposed new partial cloverleaf interchange of I-95 and relocated Contee Road, and 1.8 miles of new 4-lane arterial roadway. Responsibilities included roadway geometric design adhering to AASHTO criteria, alternatives development, preliminary maintenance of traffic concepts, conceptual stormwater management (2007 MD SWM Act criteria), subconsultant coordination, preliminary traffic engineering for signals, lighting, signing and ITS, 6-lane Bridge over I-95, major quantity cost estimates, and Design-Build RFP preparation. Mr. Thai conducted extensive project coordination efforts with adjacent owner (Konterra) and Prince George's County for adjacent projects.

MD 355 at Cedar Lane Reconstruction, Naval Medical Center BRAC Improvement, Montgomery County, MD. Project Engineer for phased roadway intersection widening to improve level of service at this congested intersection to supplement Bethesda Naval Medical Center/ BRAC expansion. Revised concept study plan in order to reduce right-of way and environmental impacts. Intersection includes approximately 5,100 feet of improvements including widening to accommodate the addition of thru lanes and left turn lanes, widening of two culverts, addition of retaining walls and steps, and redesign of existing medians to develop left turn lanes and improve storage length.

MD 7, Philadelphia Road Reconstruction, Baltimore County, MD. Project Design Engineer for the reconstruction of this 2010 ACEC/ MD Award of Excellence winning, 2.5 mile long 2-lane urban arterial roadway. The project included the widening and reconstruction, new curb and gutter and ADA compliant sidewalks, bicycle accommodations and drainage improvements, retaining walls and traffic signal modifications, utility coordination with Baltimore County DPW and BGE gas & electric and multi-phase maintenance of traffic plans. Mr. Thai provided design quality reviews and coordination of MBE subconsultant design. Participated in Partnering During Construction.

US 1 Reconstruction, College Park, MD. Project Manager for 1.2 mile of roadway reconstruction and widening project including horizontal shift of US 1 from Albion Road to Guilford Road to accommodate sidewalk construction without impacting existing utility poles and R/W. Project included roadway design, MOT, ADA compliance, utility coordination, SWM and E&S design and permitting, and pavement marking. Project was presented to the City of College Park city council and to two (2) community groups.

MD 228/ 210, Prince George's County, MD. Roadway Design Engineer for the final design of the dualization and new alignment of MD 228 and widening of MD 210 from 4 lanes to 6 lanes for a total project length of 7 miles. Provided contract document preparation for three construction contracts. The project included several at grade intersections with median crossovers, significant wetland mitigation, and environmental permits to major stream crossings with a bridge widening and a new bridge and a multi-cell box culvert. Developed quantity take-offs and cost estimates preparation.

MD 43 Extended, Whitemarsh Blvd., Baltimore County, MD. Design Engineer for development of multiple highway alternatives for new five (5) mile, 4-lane arterial with multiple intersections/ roundabouts. Work included developing minimization and avoidance alternatives of extensive wetland areas in the project area. Developed quantities for preliminary cost estimates for approximately $65 million in construction costs.

Century Engineering, Inc.

Troy M. Holloway, P.E., PTOE
Traffic Engineer

Registration

1999	P.E.	Maryland Registered No. 24590
2003	PTOE	Certified Professional Traffic Operations Engineer, #1088

Education

M. Eng.	2000	Transportation Engineering University of Maryland
B.S.	1994	Civil and Environmental Engineering, Pennsylvania State University

Years of Experience

20

Experience and Qualifications

Mr. Holloway is a MD registered Professional Engineer with expertise in traffic engineering services including data collection; operational studies; transportation management plans; highway signing and lighting design; capacity improvement projects; the design and preparation of traffic signals, signal system timing and TTC plans; and development of standards and specifications. He is thoroughly familiar with Federal, State and local design criteria and was tasked with modifying the MdMUTCD including all revisions to the current 2011 Edition.

US 113 Design/ Build Project from north of U.S. 50 to south of MD 589, Project Engineer for the design of the signing and pavement marking for the 2.6 mile design/ build highway realignment converting this portion of US 113 from a two-lane, two-way traffic pattern to a four-lane divided highway. Design included the placement/ modification/ removal of over 150 signs and pavement marking layout for the main line, service roads, interchange and turn bays the project corridor.

MD 5 (Hughesville Bypass), Project Engineer for the dualization and relocation of 3.2 miles of MD 5 to a four lane divided limited access highway and a diamond interchange with two roundabouts at MD 231. The MD 5/MD 231 interchange and approximately 1.7 miles of MD 5 are on new alignment. Detailed traffic control plans, construction sequencing including optimization modeling to maintain acceptable levels of service throughout construction were developed. Extensive utility coordination was maintained to minimize impacts and relocations of traffic signals and signing. Additional project services involved signing, pavement marking and lighting for the entire corridor.

MD 7 (Philadelphia Road), I-695 to US 40, Baltimore County, MD. Project Engineer. Mr. Holloway's responsibilities included traffic control device design consisting of four signal reconstruction sites and corridor signing and pavement marking for this 2.5 mile long community safety and enhancement project. Mr. Holloway was involved with this project from P.I. to advertisement to coordinate utilities, ROW and drainage and identify signal structure and signing placement needs.

I-95 Ritchie-Marlboro Interchange, Prince George's County, MD. Mr. Holloway was a Project Engineer for the final design of a new access to I-95/I-495 with the Ritchie-Marlboro Interchange and the realignment of approximately 1.1 miles of Ritchie-Marlboro/White House Roads and 0.71 mile of improvements to Prince George's County roadway. The spread diamond interchange utilizes roundabouts at Ritchie-Marlboro Road instead of signalized intersections. Continued coordination between Prince George's County and SHA officials was conducted to assure continuity of plans. Detailed traffic control plans, construction sequencing and traffic analysis was provided to maintain traffic throughout construction. Signing and pavement marking design for the roundabouts and roadway segments were included as part of this contract.

MD 174 (Quarterfield Road) Parke West Drive to Pamela Drive, Anne Arundel County. Project Manager responsible for the preparation of signal, signing, lighting and pavement markings plans for inclusion in a bridge replacement and roadway widening project. Three existing signal locations were impacted requiring reconstruction and a fourth signal was designed for the relocated SB I-97 ramp. The design consisted of new ground mounted and overhead signs, sign structures, pavement marking and lighting for I-97 and MD 174.

SHA Office Of Highway Development BCS 2005-13, Project Engineer, prepared preliminary and final work zone traffic control plans for multi-staged construction including MD 5 (Hughesville Bypass); US 301/ MD 197 interchange; I-83/ Timonium Road interchange; and US 40, St. Johns Lane to I-70. Mr. Holloway is currently providing temporary traffic control and final design services as part of three BRAC improvement projects along MD 355, MD 187 and MD 175. The work includes signal, signing and pavement marking design for each multi-lane capacity improvement project.

Century Engineering, Inc.

Christopher J. Minick, P.E.
Structural Engineer

Registration
1989 P.E. Maryland Registered No. 17321

Education
B.S. 1982 Structural Engineering
West Virginia University

Years of Experience
31

Experience and Qualifications
Mr. Minick has extensive design and project management experience for bridges, culverts, and retaining walls for transportation projects. His structural design experience includes foundation design; technical designs for temporary sheeting and shoring, formwork, and false work, construction staging, steel erection, pile load testing, concrete pouring sequences, and field coordination. Mr. Minick is familiar with structural design software including MERLIN-DASH, MDX, BEAMS, RISA3d, and STAAD III. He has received FHWA training in LRFD, driven pile foundations, design of fatigue resistant steel bridge details, value engineering, and bridge inspection. He has extensive experience in the inspection and evaluation of steel, cast in place concrete, and pre-stressed concrete bridges.

MD 355 at Cedar Lane Reconstruction, Naval Medical Center BRAC Improvement (BCS 2003-08A), Montgomery County, MD. Structural Project Manager supervising the structural design and the geometric layout of the new culverts and retaining walls needed to accommodate the intersection improvements. Assisted with the coordination of culvert construction with utility and MOT work, including construction staging. Responsible for coordination with the client and other stakeholders to assure that the structural design and construction met the needs and expectations of SHA, WMATA, Montgomery County, NIH, and other affected stakeholders. Oversaw design coordination with other involved project design disciplines including roadway and drainage design, utility relocations, and stream channel improvements. Provided construction phase services including shop drawing reviews, responses to Contractor requests for information, and active participation in partnering meetings throughout the construction of the project.

I-95 – Section 100, Baltimore City, MD. Developed the initial geometric layout of the bridge superstructure and span arrangement for this 1500 foot highway overpass carrying I-895 over I-95. This project also included the design for an extension of a rigid frame structure carrying I-95 over Red House Run, retaining walls, and noise barriers.

MD Route 7 Streetscape - US Route 40 to I-695, Baltimore County, MD. Designed three retaining walls. Project required extensive coordination with utility companies and highway drainage facilities to lay out retaining wall footings. Wall design had to incorporate driveway and walkway access to private residences and businesses.

Area Wide Culvert Repairs, Emergency Bridge Repairs and/or Rehabilitation Services - Statewide, BCS 2007-8F, Structural Design Project Management. Supervised design and plan preparation to package box and pipe culvert invert repairs into two area wide contracts. The work consisted of field evaluations to determine the extent of needed repairs, the preparation of repair plans, assisting SRED with the preparation of the Joint State and Federal Waterway Construction Permits, and the preparation of sediment and erosion control plans.

BCS 2002-26H – Maryland State Highway Administration Office of Structures Open End Design Services Contract – Statewide. Mr. Minick served as the Project Engineer and deputy Project Manager for multiple tasks under this Open End Design Services Contract. Representative assignments Mr. Minick worked on under this contract include:

- Auth Road over I-495. This project included the inspection of the existing steel superstructure to determine the amount of section loss in the bridge beams due to corrosion and the design of a new replacement north fascia beam for Span 2 as well as plating repairs of corroded beams at expansion joint locations.
- MD 272 over AMTRAK. This project included the initial design of a new one-span bridge to replace the existing three-span railroad overpass bridge. Alternative designs were studied to minimize disruptions to the AMTRAK catenary and signal structures and traffic on MD 272. Top down constructed retaining walls were designed for both bridge approaches to minimize right of way impacts to properties adjacent to the roadway as the vertical alignment was raised to provide clearance over the railroad tracks
- MD 63 over the CSX Railroad. This project included the design of a deck replacement and substructure repairs for the three simple span bridge carrying MD 65 over the CSX railroad. The bridge substructure was modified to conform to the AASHTO LRFD specification by filling the spaces between the bridge pier columns above the pier crash walls to stiffen the substructure.

FORM A-2 – LEAD DESIGN FIRM

PROJECT DESCRIPTION

Name of Proposer: George & Lynch, Inc.

Name of Design Firm: **Century Engineering, Inc.**	
Project Role: **Lead Design Firm** Designer: **X** Other (Describe): _____	
Years of Experience: Roads/Streets: **40** Bridges/Structures: **40** Environmental: **40**	
Project Name and Location: **SR1, Little Heaven Grade Separated Intersection Kent County, Delaware**	
Project Key Staff and Discipline Lead (as applicable to project)	
Project Design Manager/ Firm:	William Conway, PE / Century Engineering
Hydrological/Hydraulic Design Engineer/ Firm:	Alex Schmidt, PE / Century Engineering
Geotechnical Design Engineer/ Firm:	Paul D'Amato, PE / Century Engineering
Landscape Architect/ Firm:	Michael Pieranunzi, RLA / Century Engineering
Highway Engineer/ Firm:	Steve Penoza, PE / Century Engineering
Traffic Engineer/ Firm:	Bret Martine, PE, PTOE / Century Engineering
Structural Engineer/ Firm:	Walter Hoey III, PE / Century Engineering
Description and Specific Nature of Work for which Firm was responsible and relevance to this contract:	
The SR1, Little Heaven Grade Separated Intersection project was identified as a critical location in the Delaware SR1 Corridor Capacity Preservation Program. The specific goals of the project were to address the existing safety concerns and preserve roadway capacity for current and future traffic. This project consists of realigning two (2) miles of existing northbound and southbound SR1, constructing a bridge over Bowers Beach Road, and constructing new service roads along both sides of SR1 to separate mainline and local traffic. The project is currently in the final design phase and overall tasks include: highway re-alignment, widening, and rehabilitation; maintenance and protection of traffic; markings, signage, and lighting; signal design; bike and pedestrian amenities; drainage and erosion control; geotechnical analysis and soil borings; jurisdictional agency permitting; scheduling and estimating; and, overall public outreach. Services provided include: Alternate Designs & Traffic Analyses; Environmental Documentation; Public Workshops; Survey; Utility Locates/Coordination; Plan Preparation; Maintenance of Traffic; Stormwater Management; Construction Phasing; Constructability Reviews; Scheduling; Estimating; and Wetland Monitoring and Reporting. Century coordinated with and provided various design elements and details to the DelDOT Bridge Section for their design of the structure and MSE walls. Except for the bridge design and archaeology investigations, all services were provided by Century	

Century led a series of workshops to present alternatives, receive public comments, and present the preferred alternative. This extensive public outreach effort also included coordination with the fire companies servicing the area, multiple stakeholder groups and proposed developments located in the immediate area of the project.

The project presented several unique design challenges including designing the proposed alignments around an existing cell phone tower and several historic properties. Detailed utility coordination played a large role in the design of this project. A 36" sewer force main and pump station, along with an extensive Verizon vault system are being relocated as part of this project.

Century prepared detailed construction phasing plans that maintains two (2) lanes of traffic in each direction on SR1 during construction. This provides for an adequate and safe work zone while minimizing the disturbance to the traveling public. The overall construction phasing consists of six (6) main Phases with approximately fourteen (14) Stages per phase. This unique and detailed approach to construction phasing minimized the overall contract duration, minimized costs required due to the ability to utilize on-site borrow sources and minimized impacts to the local community and traveling public.

Century also provided environmental services throughout the design, including wetland delineation and permitting and selection of a wetland mitigation site. Century performed an analysis of multiple potential wetland mitigation sites based on several site specific factors to determine the most environmentally viable and cost effective location.

Description of Specific Nature of Work for which Key Staff proposed for this contract was responsible for on project and relevance to this contract:

Key Staff that we are proposing on this project which also were assigned to the SR1, Little Heaven Grade Separated Intersection (GSI) project are:

William Conway, PE – Bill was the Project Manager for the SR1, Little Heaven GSI assignment. In this role he is responsible for overall project management; overseeing all design components; budget; schedule; client and stakeholder coordination.

Paul D'Amato, PE – Paul providing geotechnical support service to our design Team on the SR1, Little Heaven GSI project. Relevance included widening/improving an existing 2 mile section of SR1 complete with service roads; culvert extension designs; retaining wall designs; and pavement section design/review.

List any awards and/or commendations received for the project:

Name of Client (Owner/Agency, Contractor, etc.): **Delaware Dept. of Transportation**
Address: 800 Bay Road, Dover, DE 19901
Contact Name: Mr. B. Thad McIlvaine, P.E. Telephone: 302.760.2349
Owner's Project or Contract No.: T200412202 Fax No.: N/A
Initial Design Fee Value (US $): $5.1 million Final Design Fee Value (US $): $5.1 million
Percent of Total Project Design Work Performed by Company: 78%
Commencement Date: 1/2007 Original Design Completion Date As Defined by Owner: On-going
Actual Design Completion Date: On-going
Construction Contract Value (US $): $45.0 million Final Value (US $): On-going
Any disputes taken to arbitration or litigation? Yes ☐ No ☒

FORM A-2 – LEAD DESIGN FIRM

PROJECT DESCRIPTION

Name of Proposer: George & Lynch, Inc.

Name of Design Firm: **Century Engineering, Inc.**
Project Role: **Lead Design Firm** Designer: **X** Other (Describe): _____
Years of Experience: Roads/Streets: **40** Bridges/Structures: **40** Environmental: **40**
Project Name and Location: **I-95 at Contee Road Interchange, Interchange, Design Build, Prince George's County, MD**
Project Key Staff and Discipline Lead (as applicable to project)
Project Design Manager/ Firm: Anthony Frascarella, P.E., Century Engineering, Inc.
Highway Engineer/ Firm: Vien Thai, P.E., Century Engineering, Inc.
Structural Engineer/ Firm: Chris Minick, P.E., Century Engineering, Inc.
Description and Specific Nature of Work for which Firm was responsible and relevance to this contract:
Century Engineering provided preliminary design and Phase V design review and construction support services on the I-95 at Contee Road Interchange Design Build (DB) Project. This major new construction project, located in Prince George's County is for the construction of Contee Road, an urban arterial roadway, and its grade separated connection with I-95 using a partial cloverleaf interchange configuration. The Contee Road Interchange will connect to the I-95 Collector-Distributor (CD) roadway system between MD 198 and the ICC - MD 200. The project limits along Contee Road Relocated are from just east of the Van Dusen Road to a ½ mile west of Sweitzer Lane: a distance of 1¼ miles. The project consists of the Contee Road 519 ft. 4-span steel girder bridge crossing over I-95, two interchange directional ramps, two interchange cloverleaf ramps, and the relocation and at-grade connections of Sweitzer Lane and Van Dusen Rd. to Contee Rd. Preliminary engineering services included engineering assessment, data collection, mapping and graphics, development of preliminary alternates, cost estimates, right-of-way estimates, documentation for Alternates Retained for Detailed Study, detailed engineering for retained alternates, preparation for and participation at Alternate Public Workshops, Location Design/ Public Hearing, multiple Focus Group meetings, and draft and final environmental documentation. Design services included highway, structure, drainage, conceptual stormwater management and erosion and sediment control, traffic analysis, preliminary signalization, lighting and signing, preliminary maintenance of traffic, constructability review, utility design coordination, NEPA coordination, metes and bounds survey and right-of-way plat preparation, construction cost estimates, Design/ Build RFP document preparation, Phase V design review and developer and County coordination services.

Structure design included development of Type, Size, and Location level plans to determine the span arrangement and location of the abutments and piers. Preliminary design work was necessary to set the vertical profile of the roadway to ensure that sufficient vertical under clearance was provided to mainline I-95 and the future ICC CD roads. Abutment and pier locations were determined to provide required horizontal clearances for mainline I-95, future CD roads, and possible future I-95 express toll lanes. Coordination was required to address utility, storm drain, and storm water management facility locations in relation bridge construction activities. Aesthetic and structural details, special provisions, and performance specifications for the proposed bridge were developed and incorporated into the design build documents. The project also includes the removal of the existing Van Dusen Road Bridge and approach roadway embankments for the construction of future CD roads along I-95.

Preliminarily SWM design used the latest criteria issued in Supplement #1 of the 2000 Maryland Department of the Environment (MDE) SWM Design Manual and will incorporate Environmental Site Design (ESD) to the Maximum Extent Practicable (MEP). Over 20 SWM structural facilities and 130 SWM ESDs were designed to address both quantity and quality control for Eighteen (18) points of study in the Washington Metropolitan Area (02-14-02) and Patuxent River Area (02-13-11) watersheds. ESDs included micro-bioretention, bio-swales, grass and wet swales, submerged gravel wetlands, and sheet flow to conservation area. Preliminary ESC was developed in conjunction with staged traffic control and detailed sequence of construction required for concept approval by MDE.

Extensive coordination was required with adjacent land owners including Konterra and with Prince George's County DPW&T. Utility relocations, including BGE gas and electric, WSSC water, PEPCO, and Verizon were coordinated with the utility owners and SHA. Phase V design review and management services are being provided for the DB contract and the County construction contract of Virginia Manor Road from Old Gunpowder Road to ICC Contract E.

Description of Specific Nature of Work for which Key Staff proposed for this contract was responsible for on project and relevance to this contract:

Mr. Minick was the lead bridge design engineer responsible for design and preparation of preliminary bridge structure plans, specifications and estimate. He coordinated with SHA OBD.

List any awards and/or commendations received for the project:

n/a

Name of Client (Owner/Agency, Contractor, etc.): **Maryland State Highway Administration**

Address: 707 North Calvert Street, Baltimore, MD 21202

Contact Name: Ms. Lisa Choplin Telephone: 410.545.8823

Owner's Project or Contract No.: PG4195172 Fax No.: 410. 209.5001

Initial Design Fee Value (US $): $1,758,000 Final Design Fee Value (US $): $1,758,000

Percent of Total Project Design Work Performed by Company: 100%

Commencement Date: August, 2009 Original Design Completion Date As Defined by Owner: January, 2014

Actual Design Completion Date: 2014 (Est)

Construction Contract Value (US $): $30,700,000 Final Value (US $): TBD

Any disputes taken to arbitration or litigation? Yes ☐ No ☒

FORM A-2 – LEAD DESIGN FIRM

PROJECT DESCRIPTION

Name of Proposer: George & Lynch, Inc.

Name of Design Firm: **Century Engineering, Inc.**	
Project Role: **Lead Design Firm** Designer: **X** Other (Describe): _____	
Years of Experience: Roads/Streets: **40** Bridges/Structures: **40** Environmental: **40**	
Project Name and Location: **SR26 Mainline and Detour Routes Improvements Sussex County, Delaware**	
Project Key Staff and Discipline Lead (as applicable to project)	
Project Design Manager/ Firm:	William Conway, PE / Century Engineering
Hydrological/Hydraulic Design Engineer/ Firm:	Alex Schmidt, PE / Century Engineering
Geotechnical Design Engineer/ Firm:	Jay Burtis, PE / Century Engineering
Landscape Architect/ Firm:	Michael Pieranunzi, RLA / Century Engineering
Highway Engineer/ Firm:	Jill Frey, PE / Century Engineering
Traffic Engineer/ Firm:	Bret Martine, PE, PTOE / Century Engineering
Structural Engineer/ Firm:	Walter Hoey, III, PE / Century Engineering
Description and Specific Nature of Work for which Firm was responsible and relevance to this contract:	

The SR 26 Improvements project is located in Sussex County, Delaware. SR 26 is one of the three (3) major east-west corridors leading to the Sussex County Resort Towns. During the planning stages of the SR 26 project, four (4) main goals were established: to reduce congestion; to improve safety; to establish defined entrances and exits; and to improve the overall condition of the roadway. This construction project consists of widening and realigning approximately four (4) miles of roadway to provide 2 – 11' travel lanes with 5' shoulders and a 12' shared center left-turn lane. Right turn lanes are proposed at most of the 21 intersections with State and local roads as well as the many existing, newly constructed and proposed commercial and residential entrances. Services that we provided on this project include: Alternative Designs & Traffic Analysis; Environmental Documentation; Public Workshops/ Outreach; Survey; Utility Coordination; Plan Preparation; Maintenance of Traffic; SWM; Construction Phasing; Constructability Review; CPM Scheduling and Estimating.

In advance of the SR 26 Mainline project, Century was also tasked with investigating and designing detour routes for the Mainline project. The SR 26 Detour Routes project was proposed to improve a series of roadways to provide an alternative route during the construction of the SR 26 Mainline project. By widening four (4) miles of area roads to provide 2 – 11' travel lanes with 5' shoulders and improving 8 major intersections and numerous entrances, the general public now has a safe route to take while avoiding the construction on the mainline. **This phase completed construction in the Fall 2013 at a cost of $8.6 million.**

Extensive public outreach was conducted for these projects. Numerous public workshops were conducted along with advisory committee meetings. Property owner meetings were held with both

commercial and residential properties and a Project Newsletter was developed. Mass mailings and e-mail notices were utilized to inform the public. Between the two (2) projects, approximately 460 parcels are involved (Mainline – 270; Detour Routes – 190). In addition to the public, coordination and outreach was also conducted with state legislators, the local school district, emergency responders, chamber of commerce, and the Towns of Millville and Ocean View. Construction Working Group meetings will be held periodically with an advisory board and the general public.
In response to concerns expressed during the public outreach, the Project Team initiated an interim project. This interim project involved utility relocations, signal design, right of way acquisition with advance access as well as the installation of a traffic camera to better allow DelDOT to monitor the conditions along the roadway. This project was designed and constructed in an accelerated time frame and was open to the public as promised before the start of the summer traffic season.
This project involved innovative and unique construction phasing approaches. To construct the SR26 Detour Routes project in the shortest construction duration possible while minimizing impacts to the public, the improvements were completed under full roadway closures and also included full-depth in-place pavement reclamation (FDR). A series of twenty-six (26) Detour Plans were designed to allow the contractor to close various segments of the roadways and construct the project in both a time efficient and cost effective manner. The construction phasing approach on the SR 26 Mainline project will allow for the roadway to be constructed under full traffic and will utilize the entire calendar year with allowable work hours identified during summer peak, off-season peak, holidays and nights to minimize the disruption to the traveling public and businesses. The Mainline project is also utilizing innovative and unique approaches to maintain the pedestrian traffic throughout the project limits during construction.
The SR26 Mainline project started construction in January 2014 under a low bid of $24.9 million and duration of 2.5 years

Description of Specific Nature of Work for which Key Staff proposed for this contract was responsible for on project and relevance to this contract:

Key Staff that we are proposing on this project which also were assigned to the SR26 Mainline and Detour Routes Improvements project are:
William Conway, PE – Bill was the Project Manager for the SR26 Mainline and Detour Routes Improvements assignment. In this role he is responsible for overall project management; overseeing all design components; budget; schedule; client and stakeholder coordination; and construction administration support services.

List any awards and/or commendations received for the project:

Name of Client (Owner/Agency, Contractor, etc.): **Delaware Dept. of Transportation**	
Address: 800 Bay Road, Dover, DE 19901	
Contact Name: Mr. Tom Banez, P.E.	Telephone: 302.760.2363
Owner's Project or Contract No.: T200411210	Fax No.: N/A
Initial Design Fee Value (US $): $6.2 million	Final Design Fee Value (US $): On-going
Percent of Total Project Design Work Performed by Company: 94%	
Commencement Date: 5/2004	Original Design Completion Date As Defined by Owner: On-going
Actual Design Completion Date: On-going	
Construction Contract Value (US $): $24.9 million	Final Value (US $): On-going
Any disputes taken to arbitration or litigation? Yes ☐	No ☒

Environmental Approach

Century Engineering and its staff members have extensive experience on numerous transportation projects throughout the state of Maryland that have involved sustainable design practices and avoidance/ minimization techniques to protect sensitive resources. In all projects, our experienced environmental specialists and water resources engineers work closely with highway designers and contractors to ensure compliance with all permit conditions, ultimately protecting natural resources and water quality. Many of our staff hold both Green and Yellow Card certifications and Century has engineers that are certified MDE reviewers. Century's staff has excellent relationships with regulatory agency personnel and involve the Maryland Department of the Environment, U.S. Corps of Engineers and other applicable permitting agencies in all phases of a project from planning and design through construction. From past experience, we have found that early agency involvement aids in a mutual understanding of expectations and regulatory requirements allowing for the development of designs and implementation of construction phases that satisfy permit conditions.

Our staff is experienced in working on assignments ranging from small intersection improvements to large projects such as the Section 100 I-95/I-895 project where, in many cases; sensitive environmental resources were present.

The Section 100, I-95/ I-895 project involved the total reconstruction of I-95, including the I-95/ I-895 Interchange from north of the Pulaski Highway interchange to south of the I-695 interchange, and from I-895 from the Moravia Road interchange to the I-95 interchange for a total distance of approximately 3.9 miles. Century provided a wide range of services for this complex project, which involved transportation designers, environmental scientists and water resources engineers working closely to develop designs that avoid/ minimize impacts to natural resources and improve overall water quality. Working with our transportation engineers, Century's water resources and environmental staff conducted stormwater management design, hydrology/ hydraulic analyses, erosion and sediment control, channel stabilization, permitting and agency coordination. Extensive drainage improvements were designed to accommodate runoff from the new roadway, maintain drainage during construction, improve water quality and provide conveyance to SWM facilities. Seven SWM facilities were designed to address both quantity and quality control. Two SWM facilities were lined to isolate stormwater from soil contaminates. Several of the large SWM facilities were used for sediment basins during construction minimizing the use of smaller traps throughout the project site and allowing the basins to remain in place for the duration of the three construction contracts.

Another example of Century's environmental scientists and engineers working closely with designers and contractors includes recent work associated with the installation of utility lines through sensitive stream and wetland environments in Anne Arundel County, Maryland. This project involved working directly with agencies and contractors to mutually agree upon the type of construction technique to traverse both stream and wetland systems. Through this process, Century hosted a regulatory agency summit that involved MDE, the USACE, and the design team to clearly define the project and expectations related to sensitive environmental resources. During the design and construction process, Century's scientists worked with engineers to minimize impacts to natural resources and develop various alternatives that consider numerous parameters including impacts to the environment, overall project costs, schedule, constructability, etc. Once the preferred alternative was selected, Century developed an environmental compliance plan (that included onsite support) to minimize potential impacts to aquatic resources through the use of various sediment and erosion control techniques. To provide added protection for natural resources, Century included a contingency plan to contain potential pollutant releases in the unlikely event that they occur.

In addition to the examples listed above, Century has used various other "best management practices" such as redundant sediment and erosion control when working near sensitive environmental resources; designing retaining walls to limit impacts to specimen trees; providing concrete cleanout areas to reduce potential water quality impacts; and suggesting low noise generating pumping equipment in noise sensitive locations. Because our staff and project experience covers planning through design and construction, our Team has the experience to incorporate numerous techniques to minimize and/or avoid sensitive resources throughout all phases of a project to ensure that resources are protected to the greatest extent possible.

Lead Construction Firm

Lead Construction Firm

FORM A- 1 – Lead Construction Firm

PROPOSED KEY STAFF INFORMATION

Name of Proposer: **George & Lynch, Inc.**

Position	Name	Years of Experience[1]	Education/ Registrations	Name of Employer
Design-Build Project Manager	Christopher W. Baker, P.E.	25/ 25	BS/ PE	George & Lynch, Inc.
Construction Manager	Bruce Kenney, Jr.	30/ 30		George & Lynch, Inc.
Design/ Construction Liaison	E. Michael Laverty	<1/ 40	BA	Century Engineering, Inc.

[1] Present Firm/Total

George & Lynch, Inc.

Christopher W. Baker, P.E.
Design-Build Project Manager

Registration

1994 P.E. Delaware Registered No. 9855

Education

B.S. 1994 Civil Engineering,
University of Delaware

Training/ Certifications

Delaware Sediment and Stormwater Program (Blue Card)

CPM Scheduling

Years of Experience 25

Experience and Qualifications

Mr. Baker has extensive experience in the management and estimation of several projects ranging from a variety of road and bridge projects to wastewater treatment plants. He has been an employee of George & Lynch, Inc. for more than 25 years and is currently the Vice President of Operations. Along with his duties at G&L, Mr. Baker has served and presided over the Lake Forest School District School Board.

Notable Projects

Wolfe Neck Wastewater Treatment Plant, Rehoboth Beach, DE

Mr. Baker served as the Project manager for this project. He was responsible estimating the project, working on the design/ build team and ultimately managing the construction of the plant. The project started in 1993 and was completed in February 1996. It was a $16 Million Dollar, 4.0 MGD wastewater treatment plant including spray irrigation for Sussex County, Delaware. The design engineer for the project was Tatman and Lee

Indian River Inlet Bridge Approaches, Roadway and Bridge Demolition, Sussex County, DE

Mr. Baker served as the Operations Manager for this project. He was responsible for the coordination of the labor force and equipment for the project. This was a $14 Million project that started in March 2011 and was completed in September 2013. The project consisted of constructing the approaches to the bridge, the roadways and connector roads and demolishing the existing bridge.

Design-Build, Bridge 1-377 on N435 Over Back Creek, New Castle County, Delaware.

Mr. Baker served as the Design-Build Project Manager for this project. He was responsible for working with the Design Engineer on the design, putting together the construction estimate for the project and ultimately managing the construction of the project. This was the First Highway Design Build Project by DelDot. It was a 15 month project that cost $1.2 Million. It consisted of a bridge replacement and improving the road alignment.

Design-Build, Department of Motor Vehicles Inspection Lanes

Delaware City, Delaware

Mr. Baker served as the Operations Manager for this project. He was responsible for the coordination of the labor force and equipment for the project. This was a $4.9 Million project that started in June 2013 and was just completed in June 2014. G&L was Design-Build team member responsible for all of the infrastructure work on the project. It was a 28 acre field that was transformed into a large parking, vehicle inspection and driver training area for the DMV.

George & Lynch, Inc.

Bruce Kenney, Jr.
Construction Manager

Education

1989 Graduate of Laurel High School, Laurel, DE

Training/ Certifications

SHA Erosion and Sediment Control Certification Yellow Card (Cert. No. 09-080)

State of Maryland Erosion and Sediment Control Certification Green Card (No. 40280)

Delaware Sediment and Stormwater Program (Blue Card)

GPS for Earthmoving Equipment Training

HDPE Welding Training

Years of Experience 30

Experience and Qualifications

Mr. Kenney has worked for George & Lynch, Inc. for 30 years. He started as an equipment operator and has served as a Project Superintendent for the last 15 years. He started operating equipment for the family business when he was 12 years old. Mr. Kenney is very proficient with surveying and has extensive training and knowledge of GPS usage for equipment

Notable Projects

Sussex County Runway Extension, Georgetown Airport, Georgetown, DE

Mr. Kenney served as the Project Superintendent for this project. He was responsible for the coordination of all of the field activities which included 3 different crews and 5 subcontractors. This was an extremely time sensitive project with a very tight schedule which he was able to meet and reopen the runway on time. This project was a $4.5 Million and involved laser guided milling and GPS paving with extremely tight tolerances on the final grade.

Indian River Inlet Bridge Approaches, Roadway and Bridge Demolition, Sussex County, DE

Mr. Kenney served as the Project Superintendent for this project. He was responsible for the coordination of all of the field activities which included 7 different crews and 8 subcontractors. He also assisted in maintaining the overall schedule for the project. This was a $14 Million project that started in March 2011 and was completed in September 2013. The project consisted of constructing the approaches to the bridge, the roadways and connector roads and demolishing the existing bridge.

SR 1 SR 30 Grade Separated Intersection

Milford, DE

Mr. Kenney served as the Project Superintendent for this project. He was responsible for the coordination of all of the field activities which included 5 different crews and 7 subcontractors. He also assisted in maintaining the overall schedule for the project. This is a $9.2 Million project that started in December 2012 and is due to open in July 2014. The project consisted of constructing a new bridge over SR 1 and building the on and off ramps for the bridge including connector roads. Mr. Kenney was also responsible for maintaining traffic flow which proved especially challenging during the summer months and the influx of tourist.

Cambridge-Dorchester Airport Runway Extension

Cambridge, MD

Mr. Kenney served as the Project Superintendent for this project. He was responsible for the coordination of all of the field activities which included 3 different crews and 3 subcontractors. This was a $3.3 Million project that started in May 2009 and was completed by November 2009. The project consisted of removing and extending Runway 16-34 at the airport. The biggest challenge with this project was the time frame as the owner required use of the runway. Mr. Kenney was able to push through significant weather delays and work extended hours but was able to complete the project on time.

Century Engineering, Inc.

E. Michael Laverty
Design/ Construction Liaison

Education
B.A. 1978 Agriculture Engineering and Technology, Univ. of Delaware
Continuing Education 1984 Business Communications, Villanova University

Certification/ Licenses
MDSHA Sediment & Erosion Control Cert. 06-169
DNREC Construction Reviewer, State of Delaware, 2015
HCS Bidding Software Training, Houston, TX, 2002

Years of Experience
40

Experience and Qualifications
Mr. Laverty's professional experience is in construction management, estimating, project buy-out, project management and CPM scheduling. He has a broad array of knowledge in all fields of construction including highway; bridges; box culverts; concrete; utility work (water, sewer and storm drainage); pump station; residential and building construction. He has been involved in all stages of project coordination from bidding, selecting subcontractors and suppliers, CPM Scheduling, and Project Management from start to finish.

Dualization of US 113 from Market Street to North of MD 365 (Public Landing Road), Contract Number WO76751710, Worcester County, MD. Design/Build Manager responsible for liaison between the design team, the contractor and SHA during the design process. Once construction began, continued to act as liaison with the design team and also was responsible for CPM schedule updates, monthly cost projections, and billing. This project consisted of the preparation of final plans and the construction of US 113 on existing alignment. The southern limit of work was the end of the dualization just north of Market Street. The project extends northward through the intersection with Public Landing Road for a distance of approximately 4 miles. This project received monetary compensation for saving ¾ acre of wetlands. It has also been nominated for four awards from MDQI for Partnering, Major Construction Project, Environmental and DBE (for Guardrails Etc., Inc.)

Dualization of US 113 from North of Jarvis Road to the Delaware Line, Contract Number WO74751710, Worcester County, MD. Construction Manager responsible for liaison between the design team, the contractor and SHA during the design process. Once construction began, continued to act as liaison with the design team and also was responsible for CPM schedule updates, monthly cost projections, and billing. The project consisted of the design and construction of the dualization of US 113 on new alignment. The work included the construction of several service roads to maintain access to residential and commercial properties along the corridor. Coordination with the Delaware Department of Transportation at the north limits and the adjacent construction contract for Phase 2 of US 113 relocated was required by the design build team.

Construction of a Four Lane Divided Highway on US 113 relocated from South of MD 589 to North of Jarvis Road, Contract Number WO7385170, Worcester County, MD. Construction Manager responsible for liaison between the design team, the contractor and SHA during the design process. Once construction began, continued to act as liaison with the design team and also was responsible for CPM schedule updates, monthly cost projections, and billing. This was a joint venture project with the bridge contractor, G.A.& F.C. Wagman, Inc. This project consisted of the construction of US 113 relocated on new alignment as a dual divided highway. The southern limit of work was south of DM 589 and the northern limit was north of Jarvis Road. Construction tied into the northern end of Phase I of the US 113 project and required modification to some work that was constructed under Phase 1.

Anne Arundel County Sewer/Water Replacement & Rehabilitation Services. Anne Arundel County, MD. Project Manager for this On Call CM/CI Services to support Anne Arundel County DPW. The project consists of replacing or rehabilitation of sewer and water pipeline throughout the County. Construction management duties included oversight of multiple projects simultaneously including participating in construction review, schedule review, conducted pre construction/ progress/ schedule/ pre activity meetings, assisted with pre and post construction photo documentation – still photos and video, overseeing/ monitoring construction inspection staff, processing submittals/ RFI's/ change orders, review/ approve monthly pay estimates, preparation of monthly narrative request for each project, coordinated project closeout documentation/ punch list, and provided claims review and analysis support.

FORM A-2 LEAD CONSTRUCTION FIRM

PROJECT DESCRIPTION

Name of Proposer: George & Lynch, Inc.

Name of Construction Firm: George & Lynch, Inc.
Project Role: _General Contractor for the entire project Contractor:__X_ Other (Describe): _____
Years of Experience: Roads/Streets: __91___ Bridges/Structures: __91____ Environmental: __30_____
Project Name and Location: Pavement & Rehabilitation South II-VIII, 2012
Project Key Staff (as applicable to project)
Operations Manager: Chris Baker Project Manager: Stephanie Jackson
Construction Manager: Earl Ward
Description and Specific Nature of Work for which Firm was responsible and relevance to this contract:
George & Lynch, Inc. was responsible for the milling and overlay of Rt. 113 North and South Bound lanes from Millsboro, Delaware to Selbyville, Delaware. It was approximately a 10 mile stretch of roadway. In addition to the milling and paving, we also replaced the ADA pedestrian ramps as well as the median concrete noses throughout the project. We were responsible for the Maintenance of Traffic and the safety of the traveling public for this project. A majority of this project was performed at night so as not to disrupt traffic or interfere with the businesses along Rt. 113. Numerous business entrances and residential entrances had to be addressed during construction. The major items for this project included 57,000 Tons of Hot Mix, 65,000 SY-IN of Pavement, 150,000 LF of Rumble Strips, 9,000 SF of PCC Sidewalk, Topsoil, Seed and Mulch, Curb and Gutter Installation, Striping and Maintenance of Traffic. There were several challenges related to this project. The main challenge was the Safety to the traveling public. Great care was taken to insure that the lane closures were done properly and that no hazards were present that could have caused an accident. It was also important to work with the businesses along Rt. 113 so as not to interfere with customers entering or leaving and to insure there was safe access. The third challenge was working nights. We have become accustomed to this as many projects now require nighttime lane closures to lessen the impact on the traveling public. We were able to meet these challenges head on and finish the project on time and within DelDOT's budget.
Description of Specific Nature of Work for which Key Staff proposed for this contract was responsible for on project and relevance to this contract:
Mr. Baker was responsible for the overall coordination of the manpower and equipment that was required for this project. He was tasked with providing the necessary crews for the Project Manager to keep the project on schedule.

Contract Number: WO6365170
Project Description: US 113 (Phase 3) – From North of Massey Branch to Five Mile Branch Road, Worcester County

List any awards and/or commendations received for the project:
Finalist for the 2013 Delaware Asphalt Paving Association Award
Name of Client (Owner/Agency, Contractor, etc.): Delaware Department of Transportation
Address: 23697 DuPont Blvd
Georgetown, DE 19947
Contact Name: Mr. Wayne Massey Telephone: 302-853-1335
Owner's Project or Contract No.: T201206307 & T201206308 Fax No.: 302-856-5728
Contract Value (US $): $7,454,300 Final Value (US $): 8,989,697
Percent of Total Work Performed by Company: 90%
Commencement Date: March 2013 Original Completion Date As Defined in IFB: May 2014
Actual Completion Date: May 2014
Any disputes taken to arbitration or litigation? Yes ☐ No ☒

FORM A-2 LEAD CONSTRUCTION FIRM
PROJECT DESCRIPTION

Name of Proposer: George & Lynch, Inc.

Name of Construction Firm: George & Lynch, Inc.
Project Role: Subcontractor Contractor: X Other (Describe):
Years of Experience: Roads/Streets: 91 Bridges/Structures: 91 Environmental: 30
Project Name and Location: **Runway 14-32 Reconstruction, Dover Air Force Base, Dover, DE**
Project Key Staff (as applicable to project)
Operations Manager: Chris Baker Project Manager: Rick Stoops
Description and Specific Nature of Work for which Firm was responsible and relevance to this contract:
This project was a mid/large size construction project which was schedule and quality critical with material requirements similar to those required for the MD US 113 project. George & Lynch, Inc. was responsible for the demolition of the existing asphalt and concrete runway, replacement of the storm drainage system, placing the new subbase material and placement of the FAA Asphalt Paving. The quantities involved on this project included roto-milling 2,000,000 SY-IN's of asphalt, removal and crushing of approximately 128,000 tons of concrete, installing 5,000 LF of large diameter concrete storm drain pipe and placing 120,000 Tons of FAA Asphalt Pavement. The schedule for this project was critical to support the Mission of Dover Air Force Base.
Description of Specific Nature of Work for which Key Staff proposed for this contract was responsible for on project and relevance to this contract:
Mr. Baker was responsible for the overall coordination of the manpower and equipment that was required for this project. He was tasked with providing the necessary crews for the project manager to keep the project on schedule and to insure that there was no interference with the operations at the Dover Air Force Base.
List any awards and/or commendations received for the project:
2009 Delaware Contractors Association Construction Excellence Award
Commendation Letter from Toltest, Inc. (Construction Manager for DAFB)
Name of Client (Owner/Agency, Contractor, etc.): Dover Air Force Base
Address: Dover Air Force Base, Dover De
Contact Name: Mr. Earl Waller Telephone: 302-677-6430
Owner's Project or Contract No.: FA8903-04-D-8678 Fax No.:
Contract Value (US $): $23,101,094 Final Value (US $): $22,681,927
Percent of Total Work Performed by Company: 85%
Commencement Date: January 2008 Original Completion Date As Defined in IFB: June 2009
Actual Completion Date: June 2009
Any disputes taken to arbitration or litigation? Yes ☐ No ☒

FORM A-2 LEAD CONSTRUCTION FIRM

PROJECT DESCRIPTION

Name of Proposer: George & Lynch, Inc.

Name of Construction Firm: George & Lynch, Inc.
Project Role: Perform the majority of the construction activity, coordinate the subcontractors, establish and maintain the project schedule Contractor:___ Other (Describe): _____
Years of Experience: Roads/Streets: 91 Bridges/Structures: 91 Environmental: 30
Project Name and Location: **Indian River Inlet Roadway, Approaches and Bridge Demolition**
Project Key Staff (as applicable to project)
Operations Manager: Chris Baker Project Manager: Mike Delp
Construction Manager: Bruce Kenney, Jr.
Description and Specific Nature of Work for which Firm was responsible and relevance to this contract:
George & Lynch, Inc. was responsible for constructing the approach slabs for the new Indian River Inlet Bridge, build and reconfigure the asphalt roadway leading up to the bridge, install the storm water system, construct the Mechanically Stabilized Earth Retaining Walls (MSE), install a sand bypass system, construct the new sand dunes, install timber and concrete pedestrian access to the bridge and oversee the demolition of the old bridge. The major quantities involved on the project included 25,000 LF of Silt Fence, 10,000 Tons of Bituminous Concrete Base Course, 5,700 Tons of Type B Hot Mix, 9,000 Tons of Type C Hot Mix, 8,200 CY of Lightweight Foamed filled Concrete, 2,200 SF of MSE Walls, 35 Tons of reinforcing Steel, 11,000 SF of Concrete Sidewalk, 12,000 LF of Safety Barrier and 3,000 LF of Guardrail. This project had many challenges with respect to the overall schedule. The first milestone was having all of the approach work completed to open the new bridge by Memorial Day which we were able to accomplish. The second challenge was the demolition of the existing bridge. We worked closely with our Subcontractor to assist in the completion of this task. Instead of lifting the beams off with a crane, rollers were installed on the piers and the beams were pulled off with bulldozers.
Description of Specific Nature of Work for which Key Staff proposed for this contract was responsible for on project and relevance to this contract:
Mr. Baker was responsible for the overall coordination of the manpower and equipment that was required for this project. He was tasked with providing the necessary crews for the project manager to keep the project on schedule. Mr. Kenney was tasked with the field coordination of this project. He directed the various crews and subcontractors on a daily basis. He also assisted in updating the project schedule as well as insuring the quality control of the project.

List any awards and/or commendations received for the project:	
2013 Delaware Contractors Association Excellence in Construction Award	
2013 American Society of Highway Contractors Delaware Chapter Project Showcase Award	
Name of Client (Owner/Agency, Contractor, etc.): Delaware Department of Transportation	
Address: 800 Bay Road, Dover, DE 19903	
Contact Name: Brad Saborio	Telephone: 302-760-2080
Owner's Project or Contract No.: T200907301.01	Fax No.:
Contract Value (US $): $11,629,940	Final Value (US $): $15,067,314
Percent of Total Work Performed by Company: 87%	
Commencement Date: March 2011	Original Completion Date As Defined in IFB: August 2013
Actual Completion Date: September 2013	
Any disputes taken to arbitration or litigation? Yes ☒	No ☐

Environmental Past Performance

George & Lynch, Inc. is not just a road builder. We perform all types of infrastructure projects which often involve working in and around environmentally sensitive areas. We have built bridges over wetlands and waterways, built boat ramps, installed roads next to streams and even directionally drilled pipes under marshes and rivers. When we perform this work, our top priority is protection of these environmentally sensitive areas. We have utilized many methods to provide this protection. The most common practice is installing basic perimeter controls such as silt fence. This has proven to be one of the most tried and true methods of keeping our wetlands and waterways safe from sediment laden run-off. The key with this however is monitoring and maintenance. We have, at times, recommended the installation of Super Silt Fence when it appeared that the specified silt fence was not going to be adequate.

We have also performed several dewatering projects and stream diversion in the past. We have found that using Portable Sediment Tanks and Filter Bags (aka Dirt Bags) when pumping water prove to be very effective in stopping sediment from entering the waterways. We also utilize the Dirt Bags when we are dewatering pipe trenches to keep the storm water inlets silt free.

On our previous Maryland State Highway projects, we have typically received A's on our inspections. We make every effort to work closely with the inspectors to fix any deficiencies that they make take note of in a timely manner. Prior to a storm event, we try to insure that all controls are in place. The projects are checked by our project manager or superintendent during and after the event in case there is a failure of one of the protective measures. If something does fail, it is addressed immediately by our field staff. We believe that by taking care of issues immediately reduces the cost of cleanup and increases the time that can be devoted to the project. We have never received a stop work order on a project. This type of action negatively affects all parties involved, especially the environment.

Our environmental performance extends past wetlands and waterways. We are partners in three hot mix plants which produce a more environmentally friendly mix known as Warm Mix. The production of this type of mix requires less energy to produce which in turn decreases the carbon dioxide output of the plant. There are also less emissions from the mix itself during the placement process due to the decreased temperature.

Recycled products are also utilized at our hot mix plants. Reclaimed Asphalt Pavement Materials (RAP), roof shingles and glass are commonly used in mix designs. By recycling these materials, it not only makes for a less expensive product for the consumer, it also saves valuable landfill space.

In another environmentally friendly approach, George & Lynch will work with Century to make sure the design leads to a process that minimizes the clearing and grubbing on the project site.

George & Lynch is committed to the development and maintenance of this project in an environmentally responsible manner. We will consider the use of Administration-approved recycled and reclaimed materials in construction of this project where practicable.

Our DB Team will also consider the reuse, salvage, or recycling of all generated waste materials whenever possible. Materials that are easily recognizable, maintain their physical properties, meet the required material properties for recycling, are easily separated and transported, and have value as commodities are candidates for recycling. These type of materials generally include metals (steel, iron, copper, aluminum, bronze, etc.); plastics (cones, barrels, barricades, crash cushion plastic barrels, conduit, containers, etc.); aluminum poles and signs; electronic and electrical components; signals and signal components; topsoil; formwork; temporary falsework; brick, masonry; stone; wood; paper; and timber and yard waste from clearing and grubbing operations.

George & Lynch's philosophy is always committed to be environmentally friendly and to go above and beyond the basic controls needed to protect the wetlands, forests and overall environment.

Project Understanding and Team Organization

Project Understanding and Team Organization

Our Team understands that this Statement of Qualifications (SOQ) is the first step in the procurement process for this Phase of the US 113 dualization. We have assembled a Design-Build (DB) Team that is qualified and prepared in all respects to undertake the design and construction of this critical link to the US 113 corridor. Our Team of George & Lynch, Inc. (G&L) and Century Engineering, Inc. (Century) will be further identified as the "DB Team" throughout this narrative.

The DB Team understands that the project consists of the design and construction of two additional lanes along the existing US 113 alignment to create a dual divided highway. The project is located in Worcester County and begins North of Massey Branch and continues to Five Mile Branch Road. The project also includes design and construction of new service roads and intersection configurations to maintain access to residential and commercial properties. Roadway improvements include new pavement construction and pavement rehabilitation of existing roadways and shoulders, reforestation, closed/ open drainage systems, stormwater management quality and quantity facilities, signing, lighting, pavement markings, and culvert extensions and/or replacements.

Our Team has provided similar services on a variety of projects throughout the Mid-Atlantic region. Our Design partner (Century) is currently providing these services to the Delaware Department of Transportation (DelDOT) on several Delaware SR1 Corridor Capacity Preservation Projects. One of which is further discussed in the "Past Performance" section of this SOQ (SR1, Little Heaven Grade Separated Intersection). The Little Heaven project involves the relocation/reconstruction of approximately two (2) miles of SR1 along with providing service roads on both sides of SR1 for local access by residents and businesses.

We are also pleased to say that our DB Team has a history of working together on DB projects. George & Lynch and Century teamed for Delaware's first highway DB project, the Choptank Road over Back Creek project. Our DB Team is also currently completing the civil/ site/ highway portion of the Design-Build for the Delaware DMV Inspection Facility project located in Bear, Delaware.

These experiences give our Team a solid background in the processes and procedures of completing successful Design-Build projects that will not only meet but will exceed the expectations of SHA.

We are also proposing a new role for the project. We have created a **Design/ Construction Liaison** position which will be filled by **Mr. Mike Laverty**. Mr. Laverty acted in a similar capacity for three (3) of the previously completed MD US 113 Design-Build projects. In this role he will be responsible for liaison between Century, George & Lynch, and SHA during the design process. Once construction begins he will continue to act as liaison for our DB Team and will also be responsible for CPM schedule monitoring and updates.

Our approach for this project will be to combine the collective experience of our DB Team into one Design-Build entity delivering a high quality, least cost design/ construction that our Team and SHA will be proud to say we were a part of. We intend to open the road for traffic in the least amount of time and at the lowest cost, thereby minimizing the impact to the local community. We will take into account the concerns of the community relative to property acquisition, driveway concerns, traffic relocation and general safety concerns of the public. Our DB Team also understands that any damage to the environment must be minimized. Our goal will be to deliver a roadway design consistent with the need and goal for minimizing long term life-cycle costs for this new section of US 113.

We understand the SHA goals are as listed below and we are committed to meet or exceed these goals:

1. To provide a safe facility and maintain mobility for all roadway users.
2. To provide access control while minimizing delay to roadway users.
3. To provide safe access to all roadways for Emergency Response that minimizes the delay for Emergency Response as much as possible.
4. To provide a facility that is able to be adequately maintained.
5. To construct the dualization at the US 113 and Maryland and Delaware Railroad in the time allotted.
6. To Minimize impacts to Forest Interior Dwelling Bird Species (FIDS)

The biggest significant issue and risk associated with a Design-Build project for both the Proposer and the Administration is if there is a breakdown in communication. Communication within our DB Team and between the DB Team, the State Highway Administration (SHA), and all project stakeholders throughout all phases of design/ construction is crucial to the project success. All submissions will be made and tracked through the use of ProjectWise. Our activities start with establishing a list of parties involved in the project. Distribution protocols will be established at the project initiation meeting and maintained throughout the project duration. Below are the means and methods of communicating with:

- **State Highway Administration -** During the design phases, our DB Team and its key subcontractors and suppliers will review the plans to ensure cost effectiveness and constructability. G&L construction staff will provide formal review comments to Century from each review, and comments and responses will be tracked through the G&L document management system. The Design Quality Manager (DQM) will ensure that all submittals are internally reviewed for constructability and compliance with quality standards before being submitted to SHA for review/ approval. Our DB Team will also provide at least 14-day notice of pending submissions. All transmittals, such as submittals, shop drawings and RFIs will be recorded by the Construction Quality Manager (CQM) in the project document management system and will be linked to the project schedule which will track every step of the submittal process, including dates of resubmissions and approvals. By linking the submittal and approval logs with the CPM schedule, our DB Team will be able to quickly generate reports that provide an up-to-date project status to communicate the need for approvals and to eliminate any possible delays.
- **The General Public and Community Officials –** Our DB Team recognizes that open communication and the flow of project information to the traveling public, communities, businesses and citizens affected by construction are key to public support for the project. As with all public works, this project will cause a temporary change in the local environment, i.e. temporary lane closures, detours, relocated access points, the presence of construction activity and heavy equipment. Timely and effectively disseminating information about construction schedule and impacts is key to the success of the public awareness/ outreach program. The written plan will take the form of a **Public Outreach Support Plan** - which will outline communication methods with the general public and community officials to keep them informed of construction schedules, interruptions in traffic patterns, such as lane, roadway and driveway closures, residential and commercial utility impacts and weekly construction progress. Our DB Team will inform commuters of upcoming traffic pattern changes or closures by the use of variable message signs posted on affected roadways during the week prior to any change. Our DB Team will take several pro-active steps including designating a Public Relations Coordinator and supporting the SHA program for public contact and community relations to ensure that the public has access to information and is informed of significant changes to their environment before it happens. The DB Team is fully committed to disseminating project information to all stakeholders in the design and construction phases of the project. To do this, we will provide necessary support to the Administration to: inform property owners of upcoming activities; inform the traveling public of new traffic patterns; offer project stakeholders the opportunity to provide input on certain project decisions; and use a variety of outreach mechanisms to disseminate accurate, up-to-date project information. We will hold frequent meetings with the SHA Public Outreach team to discuss coordination efforts, stakeholders, and potential project issues. Specifically, we will coordinate with the SHA Public Outreach Team and Worcester County officials to hold a public workshop(s) as necessary. We will hold these meetings three (3) weeks prior to the closing of any roads.
- **Other Stakeholders including Environmental Agencies –** Our DB Team will consult with SHA to develop an invitation list of stakeholders invited to participate in a formal Partnering Meeting. This would include representatives of the Worcester County DPW, utility companies, local community & business associations, environmental agencies and the chamber of commerce, etc. Our DB Team's experience with the process has shown that early and continuous environmental agency

coordination is a key component to ensuring that a project remains on schedule, budget, and in compliance with the permits. Therefore, our approach is to coordinate closely with SHA's Highway Hydraulics, Environmental Programs and Landscape Operations Divisions throughout the project. SHA will take the lead in coordinating permitting issues with the agencies. This coordination will include at least one pre-construction meeting among SHA, permitting agencies and our DB Team, including our Team's Environmental Compliance Manager. Regular meetings will be held between these parties; so timely responses to any questions and inquiries can be obtained. The coordination will involve the review of erosion and sediment control, Stormwater Management Reports, and include updated forest and wetland impact plates if modifications are necessary.

Another area that could result in significant issues and/or risk would be changes in project scope. Project scope must be strictly controlled to ensure that the project is completed on time and within the allotted cost. However, changes in project scope may become necessary to address various needs, such as differing field conditions or requests by various stakeholders during the partnering process. For this reason, our DB Team will employ and enforce a change control system to secure the necessary authorizations prior to incorporating any scope change with respect to design or construction. All proposed changes in project scope will immediately be referred to the Design Build Project Manager (DBPM) to make a preliminary assessment of whether such changes warrant further evaluation and verify acceptance of cost-responsibility. If appropriate, the DBPM will initiate development of a change order request to secure final authorizations from the Design and Construction Quality Control Managers. The DBPM will also secure SHA authorization if such changes warrant exceptions to project requirements or if SHA will incur any cost responsibility. All change order requests will include the following information: the need for the change, alternative solutions, benefits of the change, effect on project requirements, effect on other work packages for each alternative, schedule impact for each alternative, the cost impact for each alternative/ cost responsibility. When scope changes are authorized, the DBPM will ensure the immediate adjustment of project baselines for cost and schedule.

Our Team's **Approach to DB contracting** will be the same approach we have used on previous Design-Build projects; that is to Team a knowledgeable, high quality design staff with a knowledgeable, experienced construction staff which will result in the best possible approach for SHA and for a successful project.

Our DB Team's focus on process, planning, and scheduling make us an excellent team for this project. Both organizations are well integrated into the DB process. Our Team has qualified personnel experienced in design and construction of heavy roadway projects. G&L has extensive experience and knowledge on phased highway widening/ reconstruction projects under difficult traffic conditions. Century has the required expertise and experience in highway, civil, H/H, ESC, landscape architecture, traffic, structural, utility and geotechnical engineering for this project. All key design staff and discipline leads are registered PE's/RLA's in the State of Maryland in their respective disciplines. Below is how our DB Team will function as an integrated entity:

- **Project Control, Coordination and Team Organization –** Our DB Team will use its extensive experience in construction scheduling to successfully manage the design and approval process. A phased construction sequence will ensure a timely and coordinated project start and successful completion within the time allotted. Because G&L Project Superintendents participate in schedule development, ownership of the schedule is built in from the start.

  Our DB Team's organizational structure ensures that schedule issues are identified and resolved quickly, while maintaining continuous communication within the Team and external stakeholders. Our DB Team will use proven project management software programs such as ProjectWise and Primavera. Access to this information will be available 24/7. We strongly believe that our Team structure and proven management approach, supplemented with our use of latest technology, will effectively draw upon the strengths of both our designers and construction staff. Our DB Team has established proven methods, procedures, processes and relationships that will ensure that the team hits the ground running and meets the Project goals. By having the contractor work directly with the designer, constructability and sequencing issues are put on the table and the design is tailored to

those issues. Long lead time materials can be identified and that portion of the design can take priority so construction materials will be on-site when the contractor is ready to break ground. Due to the integration of the contractor into the design process there is an opportunity to accelerate construction by releasing elements of design for approval prior to complete plan development. Issues are resolved during the design process as our Team of designers and contractors are all actively reviewing and incorporating better, more economical ways of designing and constructing the project.

- **Construction Staff involved with Design Activities** – G&L's DBPM and CM will provide over the shoulder reviews of design work during the development of the project design. G&L and Century have established a formal program in which G&L's Managers and key subcontractors/ suppliers provide written review comments/ recommendations during every stage of design development. Items that will be addressed by the constructability reviews are:
  - Verify that the design is compatible with G&L's construction schedule and sequencing requirements. MOT and ESC plans will also be checked for adherence.
  - Over the shoulder reviews performed throughout each step of design.
  - Conformance with SHA standards and specifications.
  - Development of project specific specifications as required.
  - Confirm the accuracy of plan details and typical sections and verify any utility conflicts.
  - Review easement/LOD to verify that work can be constructed within the project limits and ROW.
- **Design Staff involved with Construction Activities** Century's design staff will regularly visit the project site, attend progress meetings, answer questions and resolve field issues as they arise. Our DB Team's working relationship will expedite the RFI process and advance designs to assist in economical procurement of critical key materials and services. This familiarity ensures that the Construction QA/QC Manager is able to quickly communicate information to people whose technical experience matches that required by the RFI, often resulting in same day resolution. All changes to approved construction documents/ final plans will be submitted to SHA for approval prior to implementation and/or prior to response. Other activities include:
  - Assistance with MOT and approved traffic control plans;
  - Supporting resolutions for changes in field conditions;
  - Environmental compliance and understanding of permit constraints;
  - Review of initial integrated CPM schedules for construction activities to ensure comprehensiveness and understanding of MOT for all road users and to ensure utilities for each construction phase are designed.

Quality Control Team – Our DB Team has made quality performance a key priority in the pursuit of this project. This goal will be achieved through the creation of a *Quality Control Team* that is distinct and separate from design and construction production operations and the development and implementation of a comprehensive Project Quality Plan. Our Plan will be customized specifically for this project team, *incorporating and leveraging the Team's collective existing QC experience and QC programs,* and in full compliance with the contract requirements.

Leading our Quality Control Team will be our **Construction Quality Manager, Mr. Dennis Dinger**. Mr. Dinger is the President of George & Lynch. He will oversee the efforts of the Quality Control Team. He will also insure that appropriate levels of personnel and equipment are available for the work and will have input to insure the project produces the highest value for life cycle cost.

Another key Quality Control Team member will be our **Design Quality Manager**, **Mr. Anthony Frascarella, P.E.** Mr. Frascarella has managed numerous Transportation design projects in Maryland including I-95/ Contee Road Design Build Preliminary Engineering MD 7 Reconstruction and as QC Design Manager for I-95, Section 100 Managed Lanes project for MDTA. He will be responsible for preparing and implementing our DB Team's Project Quality Plan.

Working with Mr. Dinger and Mr. Frascarella on the Quality Control Team will be our **Constructability Quality Manager, Mr. Thomas Clements, P.E.** Mr.

Clements has over 38 years of experience in Construction Management and Administration. He has managed contracts of all types and sizes ranging from Suburban Development streets to heavy highway, Interstate type projects. His focus will be on overall project constructability.

As mentioned previously, additional key personnel are part of the G&L DB Team. In addition to the Design/ Construction Liaison, Construction Quality Manager, and Design Quality Manager and Constructability Quality Manager we have identified an Environmental Compliance Manager, Public Relations Coordinator, and Project Utility Coordinator. Lead Construction staff will include experienced G&L personnel for Project Controls and Scheduling, On-Site Project Safety Manager, Highway and Structures Superintendents, Traffic Manager and Erosion and Sediment Control Manager.

G&L will be the Major Participant Firm and Lead Constructor for this project, self-performing all major construction activities, ensuring on-time or early project completion. Subcontractors will be added as needed in areas noted on the organizational chart to meet or exceed the 15% DBE goal. Century, as the lead design firm, will self-perform a majority of the professional engineering services for this project. Century anticipates subcontracting landscape architecture services, subsurface exploration and testing services, certified MDE reviewer services, public relations services, and support in traffic engineering and H/H, stormwater management and/or erosion and sediment control design services. Additional subconsultants may be added as needed to meet or exceed the 3% DBE sub goal for professional services.

Team integration will be further enhanced through direct coordination between design and construction participants. Examples of G&L's team integration include:

1) Mike Laverty acting as Design and Construction Liaison supporting the DBPM and providing a direct link between the Design Project Manager and the Construction Manager;

2) Dean Davis (G&L) and Troy Holloway, PE (CEI) as our Traffic Control Manager and Lead Traffic Engineer, respectively, within our Traffic/ MOT team under design and construction to ensure effective, efficient and safe traffic control for all users;

3) Bruce Kenney Jr. (G&L), Roger Windshitl (CEI) and Craig Lynch, PE (CEI) as our ESC Manager, Environmental Compliance Manager, and ESC/H/H Designer, respectively, to ensure environmental compliance from design through construction.

Our DB Team will also effectively coordinate with local, County and State agencies including Worcester County Fire Marshal's Office, Maryland State Highway Administration and the Maryland Department of the Environment.

The organization chart on the following page reflects the chain of command and communication links that will ensure clear, concise transfer of information among stakeholders, and allow for issue resolution at the lowest possible level.

Organizational Structure

Maryland State Highway Administration

Key
- = Resumes Included
- (%) = Planned Approximate Percent of Time
- = George & Lynch, Inc.
- = Century Engineering, Inc.
- = Floura Teeter Landscape Architects
- = M/WBE Subconsultant

Quality Control Team
- Dennis Dinger (10%)
- Anthony Frascarella, P.E. (10%)
- Thomas Clements, P.E. (10%)

Design-Build Project Manager
- Christopher W. Baker, P.E. (75%)

Community Relations Manager

Project Design Manager
- William F. Conway, P.E. (75%)

Design/ Construction Liaison
- Michael Laverty (75%)

Construction Manager
- Bruce Kenney, Jr. (100%)

Highway Engineer
- Vien M. Thai, P.E. (30%)

Structural Engineer
- Christopher Minick, P.E. (30%)

Environmental Monitor

Geotechnical Engineer
- Paul A. D'Amato, P.E. (15%)

Traffic Engineer
- Troy Holloway, P.E., P.T.O.E. (30%)

Landscape Architect
- Joan Floura, RLA (20%)

H/H Design Engineer
- Craig A. Lynch, P.E. (30%)

Wetland/ Stream Specialist

Survey/ Right – of - Way

Lighting Engineer

Drilling & Laboratory Testing

H/H, Stormwater Management, Erosion & Sediment Control

Traffic Engineering Design

Survey/ Right-of-Way

Lighting

General Superintendent

Highway Superintendent

Structures Superintendent

Project Safety Manager

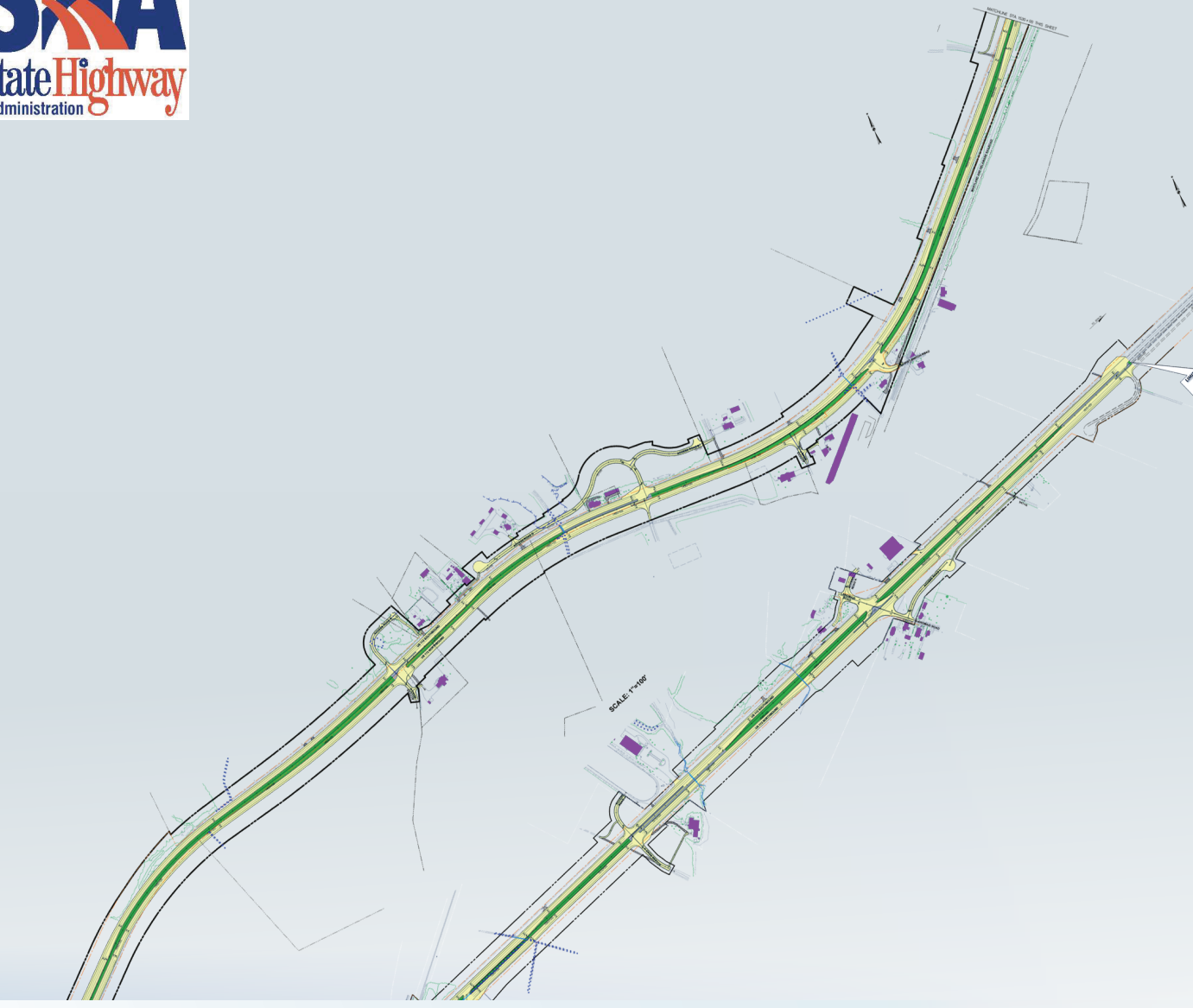
Traffic Manager

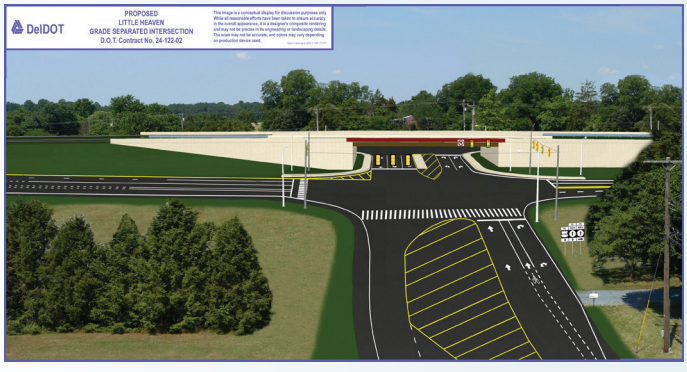
ESC Manager

Project Control / Scheduling

Specialty / DBE / MBE Subcontractors

SHA
State Highway
Administration





GEORGE & LYNCH

150 Lafferty Lane, Dover, Delaware 19901 302.736.3031