



Statement of Qualifications

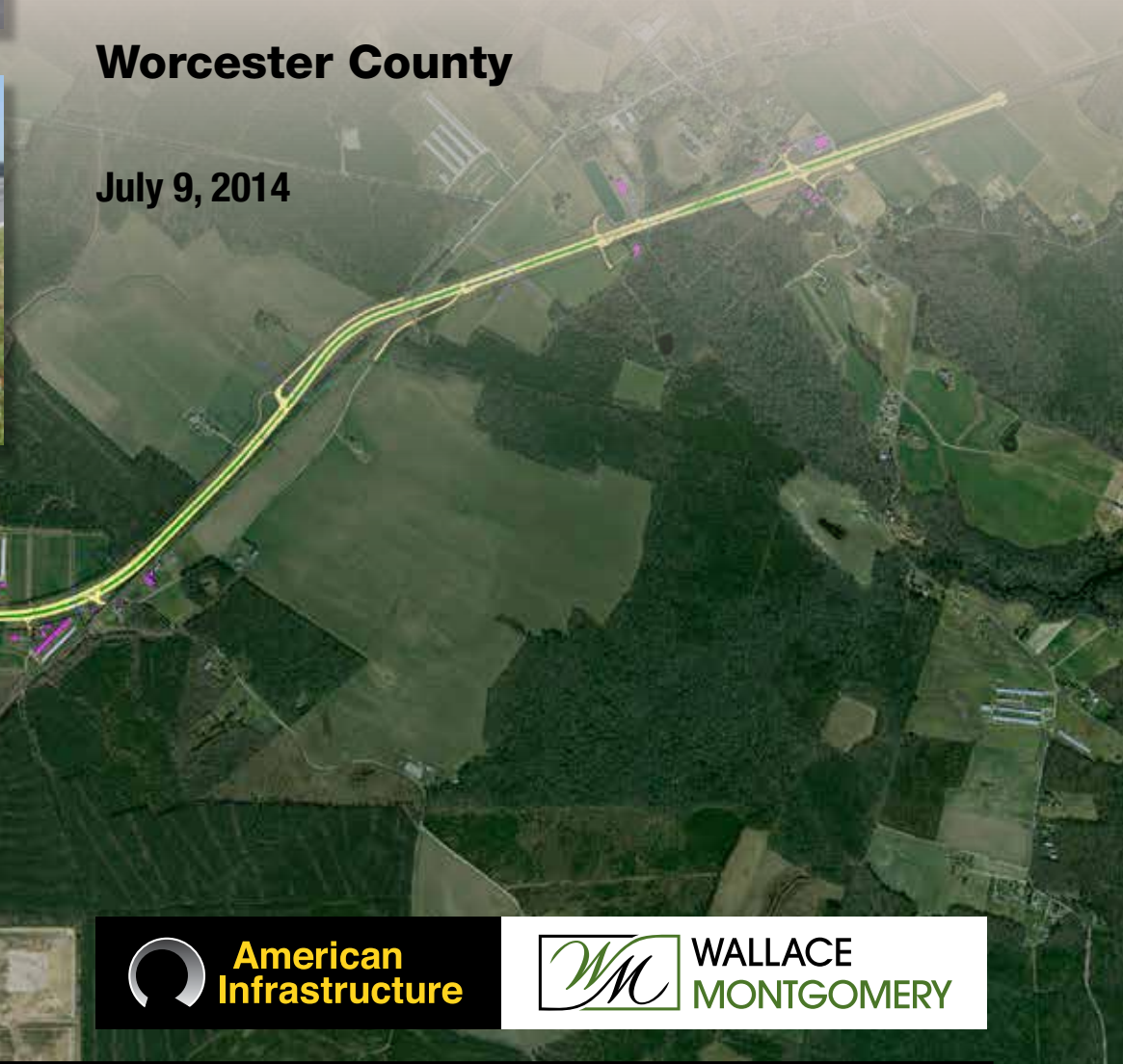
PROJECT NUMBER – W06365170

FAP NUMBER – AC-NHPP-327-1(37)N

US 113 (Phase 3) From North of Massey Branch to Five Mile Branch Road

Worcester County

July 9, 2014



American
Infrastructure



WALLACE
MONTGOMERY

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**A.
Lead Design
Firm Experience/
Qualifications and
Past Performance**

- i. Key Staff Experience, pages 3-10
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Contract Number: WO6365170

Project Description: US 133 (Phase 3) – From Massey Branch to Five Mile Branch Road

FORM A-1

PROPOSED KEY STAFF INFORMATION

Name of Proposer: American Infrastructure (AI)

Position	Name	Years of Experience¹	Education/ Registrations	Name of Employer
Project Design Manager	Eric Sender, PE	21/24	BS/1990/Civil Engineering MD Registered PE #25414	Wallace Montgomery
Hydrological/Hydraulic Design Engineer	Diane Durscher, PE	15/22	BS/1992/Civil Engineering MD Registered PE #24591	Wallace Montgomery
Geotechnical Design Engineer	Roberto Barcena, PE	6/16	MS/2001/Civil Engineering MBA/2010/Business Administration BS/1996/Civil Engineering MD Registered PE #30703	Wallace Montgomery
Landscape Architect	Joan Floura, PLA, LEED AP	14/24	BLA/1990/Landscape Architect MD Registered Professional Landscape Architect #1093	Floura Teeter
Highway Engineer	William Fiorillo, PE	9/14	BS/2000/Civil Engineering MD Registered PE #44063	Wallace Montgomery
Traffic Engineer	Matthew Allen, PE, PTOE	11/21	MBA/2002/Business Administration MS/1996/Civil Engineering MD Registered PE #20487 Professional Traffic Operations Eng #712	Wallace Montgomery
Structural Engineer	David Borusiewicz, PE	15/15	MCE/2005/Civil Engineering BS/1999/Civil Engineering MD Registered PE #24748	Wallace Montgomery

¹ Present Firm/Total

EDUCATION: BS in Civil Engineering, University of Pittsburgh, 1990

EXPERIENCE: 21 Years with WM, 24 Years in Industry

PROFESSIONAL REGISTRATIONS: MD Registered PE #25414

QUALIFICATIONS & EXPERIENCE

Eric is a MD Registered PE offering over 24 years of experience in designing and managing many types of transportation projects including new roadways & interchanges, interchange modifications, expressway-arterial realignments and capacity improvements, roundabouts, and roadway multi-modal retrofits. His experience includes both Design-Bid-Build and Design-Build contracting approaches. Eric is skilled in the development of studies, designs and construction documents. He is vastly familiar with SHA specs, standards and policies along with AASHTO and MUTCD Criteria. Eric's areas of expertise include road geometrics and drainage design, construction staging/MOT development, and traffic engineering along with extensive working knowledge of structural, SWM, ESC & utility relocation design and environmental permitting. *He offers an extensive understanding of managing multi-disciplined transportation projects and the ability to anticipate potential design pitfalls, while maintaining project objectives and critical paths.* Eric is an active proponent of SHA Partnering Initiative; participating and facilitating Partnering Meetings in both design and construction.

PROJECT EXPERIENCE

I-95 Interchange at Contee Road Design-Build, \$34M (SHA – Prince George's County, MD) – Project Design Manager for the construction of Contee Road, a divided 4-lane urban arterial road, and its grade separated partial cloverleaf interchange connection with I-95. Overseeing the complete design efforts including highway, structural, H&H, SWM, ESC, MOT, geotechnical, traffic (lighting, signals, signing & marking, ITS), utilities, landscaping, construction plans development, securing permits, ensuring environmental compliance, and providing construction consultation support services including As-Built Plans.

Middletown Road Phase 1B2 Design-Build, \$7M (Charles County PGM – Charles County, MD) – Project Design Manager for this Design-Build project involving the complete design including roadway, MOT, SWM, ESC, traffic signals, signing/marketing, and preparation of plans to realign/upgrade 2 miles of Middletown Road from a 2-lane to a 4-lane divided median highway with a hiker/biker facility. WM incorporated in the MOT phasing and coordinated with Verizon and SMECO pole/aerial relocations. Eric led the design efforts of the road geometrics, drainage, construction staging/MOT, and providing construction support services.

US 113 from Jarvis Road to Delaware Line, \$11M (SHA – Worcester County, MD) – Highway Engineer responsible for the development of roadway geometrics of this 2½ mile roadway dualization project to an ultimate 4-lane divided highway with partial control of access and 1½ miles of service roads. Assisted in the development of the project's Design-Build Advertisement Contract Documents – Final Concept Plans and Performance Specs. Provided GEC services during the Design-Build construction process including reviews of highway geometrics and plans.

MD 2 at Friendship/Sansbury Road Roundabout Design Build, \$2M (SHA – Anne Arundel County, MD) – Project Design Manager on this SHA Design-Build safety and traffic operations improvements roundabout intersection contract. Led the complete design efforts including roadway, MOT, SWM, ESC, lighting, signing/marketing, development of construction plans, and securing permits. Coordinated road geometrics and drainage design with BGE and Qwest for avoidance impacts with aerial/FO facilities. Provided construction consultation and partnering meeting services. Coordinated the preparation of as-built roadway/SWM plans.

MD 5 Branch Ave Metro Access Phase 2 (Access Road), \$33M (SHA – Prince George's County, MD) – Project Design Manager for the construction of a new access road connecting MD 5 SB to the Branch Ave Metro Station along with capacity and multi-modal improvements to 1 mile of supporting County collector roadways. Oversaw management of this multi-discipline project, the road geometrics, drainage, and MOT design, and coordinated with the project's "Utility Relocation Design Team".

US 50 Woods Rd to Bucktown Rd, \$5M (SHA – Dorchester County, MD) – Highway Engineer for this 1-mile roadway widening and resurfacing project that included roadway capacity improvements in conjunction with the adjacent proposed Hyatt Regency development. Roadway improvements included conversion from an existing open-section to a fully closed-section, raised median roadway with closed storm drain systems, acceleration/deceleration right turn and left turn lanes, and a 10-ft. wide HMA surface hiker/biker facility.

EDUCATION: BS in Civil Engineering, Cornell University, 1992

EXPERIENCE: 15 Years with WM, 22 Years in Industry

PROFESSIONAL REGISTRATIONS: MD Registered PE #24591

QUALIFICATIONS & EXPERIENCE

Diane specializes in H&H analysis and design including stormwater management (SWM); erosion & sediment control (ESC); drainage; TR-55 & TR-20 modeling; HEC-RAS & HY-8 modeling; and stream restoration. She is experienced with the 2000 MD Stormwater Design Manual including the Chapter 5 revisions resulting from the Stormwater Management Act of 2007. She has performed inspections of existing SWM facilities and has inspection and design experience with MD Pond 378 criteria for dam safety. *Diane is a MDE Sediment and Stormwater*

Plan Review Division approved reviewer with multiple project reviews of Design-Build projects and projects implementing ESD criteria. Diane has H&H experience in scour evaluations, floodplain analyses, flood investigations, roadway drainage, environmental permitting, access permits, drainage complaints, fish passage structures, channel stabilization and field work. She has project management experience with all aspects of water resources and has prepared cost estimates and contract documents.

PROJECT EXPERIENCE

I-95 Interchange at Contee Road Design-Build, \$34M (SHA – Prince George’s County, MD) – H&H Design Manager responsible for this comprehensive Design-Build contract for construction of Contee Rd, a divided 4-lane urban arterial road, and its grade separated connection with I-95. Responsible for SWM design, ESC for multiple stages of construction, cross culvert design, coordinating storm drain design based on SWM needs, and environmental permitting for each stage of construction (NPDES, Wetlands, SWM, ESC). SWM design includes approximately 8 ponds and 53 ESD micro-scale practices, primarily bio-swales.

US 301 at MD 304, \$36M (SHA – Queen Anne’s County, MD) – Lead H&H Engineer responsible for this interchange project requiring coordination and QA/QC of multiple subconsultants. SWM design includes 56 ESD facilities, primarily wet swales. ESC design includes multiple phases of construction. Analysis of proposed impacts to five existing cross culverts and hydraulic design of two new cross culverts. QA/QC of stream relocation and restoration design, including HEC-RAS for existing and proposed channels.

Father Hurley Boulevard, \$11M (Montgomery County DOT – Montgomery County, MD) – Lead H&H Engineer for design of SWM using multiple underground sand filters and an underground storage chamber for quantity control. Work also included the design of extensive closed storm drain system in an urban environment, including flow splitting manholes. Use of pervious pavement for sidewalk and bike path. Field work included determining drainage patterns, inspection of an existing SWM facility in the proposed alignment, and locating and determining stability for each outfall. Responsible for securing environmental permit approvals for SWM & ESC (Montgomery County DPS), JPA wetlands/waterways (MDE/COE),

and reforestation (M-NCPPC). Oversaw SWM As-Built Certification process.

MD 2 at Friendship/Sansbury Road Roundabout Design Build, \$2M (SHA – Anne Arundel County, MD) – Lead H&H Engineer for design of SWM wet swales based on high groundwater for this Design-Build project converting a 4-Way, 2-Way stop intersection into a roundabout. Also, designed ESC and prepared modified JPA impact plates to document reduced impacts.

MD 5 Branch Ave Metro Access Phases 1 & 2, \$65M (SHA – Prince George’s County, MD) – Lead H&H Engineer for a project modifying the MD 5/I-495/I-95 interchange (Phase 1) and constructing a new access road from MD 5 to the Metro Station (Phase 2). Led H&H/SWM/ESC efforts for both phases including design of SWM wet ponds and grass channels, multi-phase ESC construction, hydraulic analysis of existing culverts and design of new cross culverts, and stream relocation/restoration design.

MD 755 Phase II Improvements, \$5M (SHA – Harford County, MD) – Lead H&H Engineer responsible for the design of SWM for this streetscape improvement project in Edgewood adjacent to APG. The half mile roadway improvements included a complete storm drain upgrade that required coordination with the SWM design. ESD practices proposed include micro-bioretenion and submerged gravel wetland. Responsible for QA/QC of the ESC plans prepared by a subconsultant.

US 50 Woods Rd to Bucktown Rd, \$5M (SHA – Dorchester County, MD) – Lead H&H Engineer for design of a storm drain system and SWM facilities associated with road improvements including complex SWM coordination, design and securing Joint Permits from the MDE/USACE.

EDUCATION: MBA in Business,
Johns Hopkins Univ, 2010
MS in Civil Engineering, Texas
A&M Univ, 2001
BS in Civil Engineering,
Monterrey Institute, 1996

EXPERIENCE: 6 Years with WM,
16 Years in Industry

PROFESSIONAL REGISTRATIONS:
MD Registered PE #30703

QUALIFICATIONS & EXPERIENCE

Roberto is a Project Engineer leading WM's pavement and geotechnical engineering group. He is a MD Registered PE with over 16 years of experience in pavement and geotechnical engineering, including pavement management systems. Roberto's primary focus, in recent years, has been supporting SHA's Pavement and Geotechnical Division as an onsite consultant. His contributions have enhanced a variety of pavement design processes and geotechnical procedures. *Roberto was honored by SHA OMT as their "Consultant of the Year" for his outstanding work on SHA projects throughout the State in 2008 and was the runner-up in 2012.*

PROJECT EXPERIENCE

Pavement and Geotechnical Design, (SHA – On-Site Support, Baltimore, MD) – Pavement and Geotechnical Engineer responsible for providing design services for SHA projects' geotechnical program including subsurface exploration & field investigations, laboratory testing, geotechnical and pavement evaluations and designs. Well-versed with the SHA Pavement and Geotechnical Design Guide and the SHA project development process and has represented OMT for over 90 projects.

I-95 Interchange at Contee Road Design-Build, \$34M (SHA – Prince George's County, MD) – Pavement and Geotechnical Engineer for the construction of divided 4-lane urban arterial roadway and its grade separated connection with I-95. Responsibilities including overseeing the Project's geotechnical program (subsurface exploration/testing, site and bridge foundation designs performed by Findling, Inc.) and pavement evaluations and designs for new & existing resurface/reconstruct/widening.

MD 5 Branch Ave Metro Access Phase 1, \$32M (SHA – Prince George's County, MD) – Pavement & Geotechnical Engineer responsible for coordinating subsurface field exploration (auger & SPT borings) and testing. Performed roadside slope stability analysis, and designed new & existing resurface/reconstruct/widening pavement sections. Also provided geotechnical site recommendations, and prepared the project's geotechnical report in support of this Capital Beltway Interchange modification.

US 15 at MD 464 Roundabout, \$2M (SHA – Frederick County, MD) – Pavement & Geotechnical Engineer responsible for evaluating existing conditions and coordinating subsurface exploration & testing; including boring locations, depths, sampling intervals, monitoring of water tables, and soil testing. Also performed geotechnical and pavement evaluations and designs which included a riprap supported embankment due to high watertable conditions.

Boyer's Mill Road Widening and Bridge Replacement, \$12M (Frederick County DPW – Frederick County, MD) – Geotechnical Engineer responsible for coordinating subsurface field exploration, performing pavement (new & existing resurface/reconstruct/widen) & geotechnical designs, and preparing reports for the replacement of an existing 150 ft. bridge with a 300 ft., two-span bridge and realigned approach roadways. Also, performed foundation analysis and assisted structural engineers in preparing bridge plans and foundation report.

I-70 at I-81 Interchange (Phase 1), \$20M (SHA – Washington County, MD) – Lead Geotechnical Engineer for the SHA Pavement and Geotechnical Division responsible for requesting the field and subsurface exploration and providing the Project's pavement and geotechnical recommendations. Pavement and geotechnical evaluations included embankment stability and designs of full-depth pavement and overlays, and proposed gabion wall.

I-95/I-495 Capital Beltway from MD 295 to I-95 Interchange, \$12M (SHA – Prince George's County, MD) – Pavement & Geotechnical Engineer responsible for pavement and geotechnical evaluations and designs. Project consisted of rehabbing the Capital Beltway's existing pavements; including a Truck Weigh Station and Park & Ride at the I-495/I-95. Coordinated the subsurface exploration and testing program. Recommendations for this project consisted of HMA and PCC patching, grinding and resurfacing and the repair of embankment slopes.

MD 657 Improvements, \$3M (SHA – Allegany County, MD) – Geotechnical Engineer in support of this road widening project. Coordinated subsurface exploration & testing, and prepared pavement and geotechnical designs for site improvements. In support of the project's two retaining walls, performed foundation analysis and assisted in preparing retaining wall plans and foundation reports.

EDUCATION: BLA in Landscape Architecture, North Dakota State University, 1990

EXPERIENCE: 14 Years with FTLA, 24 Years in Industry

PROFESSIONAL REGISTRATIONS: MD Registered PLA #1093

QUALIFICATIONS & EXPERIENCE

During her 24 year professional career, Joan 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 SHA, Baltimore City and a variety of private clients. *Joan was the Lead Landscape Architect for the Intercounty Connector (ICC) Contracts A and B, for which she designed bioretention facilities, native landscape plantings, and streetscapes using Context Sensitive Design/Solutions.*

PROJECT EXPERIENCE

I-95 Interchange at Contee Road Design-Build, \$34M (SHA – Prince George’s County, MD) – Lead Landscape Architect responsible for definitive design, final design, and construction administration services for this Design-Build project. She 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. Joan also coordinated closely with the landscape subcontractors in plant selection and availability to eliminate the possibility of unnecessary substitutions or changes during installation.

Intercounty Connector (ICC) Contract “A” Design-Build from I-270/I-370 to MD 97, \$479M (SHA – Montgomery County, MD) – 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, Joan was also responsible for coordination with the other design disciplines. Other tasks included reviewing drawings, reforestation, task force meetings, community presentations, coordination with environmental compliance, QA/QC, tracking of overall plant quantities, and performing construction support services including the 2-year warranty.

Intercounty Connector (ICC) Contract “B” Design-Build from MD 97 to US 29, \$559M (SHA – Prince George’s and Montgomery Counties, MD) – Lead Landscape Architect on the Design-Build team awarded Contract B. Scope of work included landscape planting design, stormwater facility

planting, bike trail, bridge abutment plantings, development of the overall landscape theme, 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, Joan met regularly with stakeholders, led the landscape team in studying existing site landscape conditions adjacent, conducted ongoing communication with the public, reviewed drawings, and created the reforestation plans. Joan was also involved in coordination with environmental compliance, tracking of overall plant quantities, and construction support services including the 2-year warranty.

I-70 Phase 2D Design-Build, \$35M (SHA – Frederick County, MD) – Lead Landscape Architect on this Design-Build project, overseeing landscape planting design using native plant material, SWM /bioretention facility design and landscaping, bridge abutment plantings, and CAD production of the landscape package. The interdisciplinary team for this project also followed the Context Sensitive Design Approach and the landscape team studied the existing landscape conditions adjacent to the site. Also, Joan was responsible for QA/QC, and coordinating with environmental compliance (Roadside Tree Permit).

MD 328 Bridge over Tuckahoe River, \$9M (SHA – Caroline County, MD) – Landscape Architect 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.

MD 287 Bridge over Choptank River, \$8M (SHA – Caroline County, MD) – As the Project’s Landscape Architect, Joan worked alongside the team of engineers with a focus on reforestation requirements/plantings and then 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.

EDUCATION: BS in Civil Engineering, Saint Mary's University, 2000

EXPERIENCE: 9 Years with WM, 14 Years in Industry

PROFESSIONAL REGISTRATIONS: MD Registered PE #44063

QUALIFICATIONS & EXPERIENCE

Will has over 14 years of experience in the design of highway facilities varying from statewide to regional to site-specific projects. His experience also includes the design of multiple roadway projects varying from rural road to urban arterial-collector roads to freeways and interchanges. *He offers tremendous skills to apply unique combinations of design requirements that are often conflicting and develop a cost effective solution to the design problem.* Will's experience also encompasses preparation of MOT schemes, ADA and bicycle requirements, specialized details and specs, right-of-way clearance, and utilities coordination. Will is skilled in the development of studies, designs, and construction documents. He is extensively familiar with SHA and AASHTO criteria, specs, standards, and policies, CADD programs (Microstation, InRoads, AutoTurn) to develop designs/plans, and ProjectWise for transmitting project data.

PROJECT EXPERIENCE

I-95 Interchange at Contee Road Design-Build, \$34M (SHA – Prince George's County, MD) – Highway Engineer for the construction of Contee Road, a divided 4-lane urban arterial road, and its grade separated partial cloverleaf interchange connection with I-95. Responsible for final design efforts of the road geometrics, drainage, construction staging, and providing construction support services including preparation of As-Built Plans.

US 113 J-Turn Intersections, \$4M (SHA – Worcester County, MD) – Highway Engineer for the design and development of contract documents for J-Turn intersections along US 113 at MD 12 and MD 365 for District 1. In charge of all aspects regarding highway design, including geometrics, road widening, median modifications, and traffic barrier design.

Father Hurley Boulevard, \$11M (Montgomery County DOT – Montgomery County, MD) – Highway Engineer for the design of a 1¼ mile four-lane divided highway. The project included a new bridge over a CSXT rail line, two retaining walls and four major intersections with State and County Roads. Responsible for design of road geometrics, typical sections, traffic barrier, storm drainage collection, and pedestrian and bicycle (bike paths) facilities.

MD 7D Improvements, \$3M (SHA – Cecil County, MD) – Highway Engineer for a ¾ mile roadway rehab project for District 2 from concept phase to complete contract documents. Design responsibilities included typical section development, with on-street dedicated parking provisions and expanded sidewalks in accordance with ADA criteria, streetscape elements, and drainage design. Utility, right-of-way and shallow outfall constraints required design of special inlets and use of elliptical pipes.

MD 273 at Appleton Road Roundabout, \$2M (SHA – Cecil County, MD) – Highway Engineer for the replacement of an existing four-legged, two-way stop-

controlled intersection, with intersection control beacon with a single lane roundabout. The scope consisted of developing revisions to the horizontal and vertical alignments, and all required superelevation transitions to accommodate a 150-foot inscribed diameter roundabout along with a raised central island, 16-foot truck apron and splitter islands.

Boyer's Mill Road Widening and Bridge Replacement, \$28M (Frederick County DPW – Frederick County, MD) – Highway Engineer for the study, analysis (for AASHTO deficiencies), design and development of plans, specs and estimates along 4 miles of this rural minor arterial. Work involves replacing the existing bridge over Lake Linganore and roadway pavement repairs/resurfacing, drainage and safety improvements along with areas of widening for traffic operations at four intersections and paved shoulders between two residential developments. Provided preliminary and final design of road geometrics including intersection layouts using a roundabout and continuous green-T (MD-T).

MD 513 at Division Street Roundabout, \$0.6M (SHA – Wicomico County, MD) – Highway Engineer for District 1's first roundabout Project. Design responsibilities included typical sections, grading and modeling of roundabout, closed and open storm drain system, ADA compliant pedestrian ramps, utilities relocation and adjustments coordination, driveway relocations, cost estimate and specifications.

MD 4 Geometric Improvements, \$9M (SHA – Anne Arundel County, MD) – Highway Engineer for the development of roadway typical section and geometric improvements in compliance with AASHTO along 1 mile of the 4-lane median divided MD 4 from MD 258 to Lower Pindell Road. Design efforts addressed deficient paved shoulder widths and vertical geometrics along northbound roadway.

EDUCATION: MBA in Business, Univ of Baltimore, 2002
MS in Civil Engineering, Penn State University, 1996
BS in Engineering Sciences, Loyola University, 1994

EXPERIENCE: 11 Years with WM, 21 Years in Industry

PROFESSIONAL REGISTRATIONS:
MD Registered PE #20487
PTOE #712

QUALIFICATIONS & EXPERIENCE

Matt has over 21 years' experience in all facets of Traffic Engineering, including traffic engineering design, traffic engineering studies/analyses, and ITS design. He oversees the design of traffic control plans, signing plans, pavement marking plans, signal plans, ITS design plans, and roadway lighting plans. He is also tasked with coordinating and compiling all traffic analyses and studies including, corridor and freeway operational and safety analyses; congestion relief studies, traffic simulation/optimization modeling, capacity analyses, speed studies, parking studies, O/D studies, signal warrant/timing studies, travel-demand studies, traffic impact studies, accident studies, regulatory studies, sight distance evaluations, geometric improvement studies, signal warrant studies, etc. *Matt is an expert in traffic engineering design and a leader in phased MOT for major road projects.*

PROJECT EXPERIENCE

I-95 Interchange at Contee Road Design-Build, \$34M (SHA – Prince George’s County, MD) – Chief Traffic Engineer charged with developing signing, lighting, pavement marking, MOT, roadway lighting, three signal plans, and a comprehensive traffic management plan (TMP) for a divided 4-lane urban arterial road, and its grade separated interchange connection with I-95. The multi-phase MOT plans ensured traffic was maintained at all times while shifting from old-alignment to new bridge alignment. Project included a new pedestal mounted VMS with associated power and fiber optic infrastructure.

Middletown Road Phase 1B2 Design-Build, \$7M (SHA – Charles County, MD) – Chief Traffic Engineer responsible for the design of signing, marking, maintenance of traffic, and two signal plans for a project to realign/upgrade 2 miles of Middletown Road from a 2-lane to a 4-lane divided, raised-median highway. The signal plans were designed in accordance with SHA requirements as SHA will be maintaining the signals. MOT plans were developed for multi-phase construction with significant traffic shifts. Signing & marking plans included considerations required for sign installations on brand new roadway, including school zones, speed zones, and intersection warning signs.

On-Call Support Services Contract, \$2.5M (SHA – District 1) – Project Manager in charge of an active Open-End Support Services contract under which we have completed a significant number of traffic engineering task assignments as the District’s Traffic Engineering contract expired several years ago. Representative projects include: US 113 @ MD 12 and MD 365 Safety Improvement Studies and J-Turn Concept Designs, MD 16 @ Woods Road Capacity Improvement Study and Roundabout Concept Design, MD 528 Pedestrian Safety Study from Convention Center Drive to 62nd Street.

MD 2 at Friendship/Sansbury Road Roundabout Design-Build, \$2M (SHA – Anne Arundel County, MD) – Chief Traffic Engineer in charge of signing, striping, pavement marking, lighting, maintenance of traffic, and advanced warning beacon design plans for a new roundabout along MD 2 in southern Anne Arundel County. The signing and pavement marking plans incorporated new guide signs using SHA’s new “Fish-hook” arrow design and “Shark Teeth” yield markings. Lighting plans were developed to ensure the critical decision areas of the roundabout were properly illuminated at night. The MOT plans incorporated a sequence of construction that constructed the roundabout in multiple stages while maintaining MD 2 traffic at all times. Project required coordination with neighborhood groups.

MD 5 Branch Ave Metro Access Phase 2 (Access Road), \$33M (SHA – Prince George’s County, MD) – Chief Traffic Engineer in charge of developing and implementing a TMP for the reconstruction/ widening of MD 5 including the grade-cut “lowering” of the NB road from Auth Way to the I95/I495 Interchange. TMP included comprehensive MOTAA, implementation of work zone safety strategies, stakeholder contact list, and incident management plan.

US 301 / MD 304 Interchange, \$36M (SHA – Queen Anne’s County, MD) – Chief Traffic Engineer for the design of MOT, signing, pavement marking, roadway lighting, and a project-wide TMP for the construction of a full access interchange to replace a high accident at-grade intersection. The multi-phase MOT plans incorporate minor detours, lane closures, and temporary bypass roadways. The signing and pavement marking plans include markings/signing for two roundabouts installed at ramp intersections. The TMP includes traffic analyses, MOT alternative analyses, and extensive coordination with EMS.

EDUCATION:

MCE in Civil Engineering, Johns Hopkins University, 2005
BS in Civil Engineering, Univ. of MD College Park, 1999

EXPERIENCE: 15 Years with WM,
15 Years in Industry

PROFESSIONAL REGISTRATIONS:
MD Registered PE #24748

QUALIFICATIONS & EXPERIENCE

Dave has over 15 years of experience in the design, inspection, and repair of bridges, foundations, culverts, retaining walls and other highway related structures. He is experienced in “hands on” inspection, structural analysis, load rating, design, contract documents and reports, and construction phase services, for a wide variety of structures including steel beam & girder bridges, prestressed concrete bridges, concrete slab bridges, box culverts, structural plate culverts, retaining walls and other incidental structures throughout Maryland including many projects on the Eastern Shore. Dave is vastly familiar with AASHTO Bridge Design Specs (LRFD), SHA Policies & Procedures, SHA Standards & Specs. *Dave was honored by SHA Office of Bridge Development in 2007 with a “Certificate of Appreciation” for his work on the MD 355 NB over I-495 OL and MD 30 Bypass projects.*

PROJECT EXPERIENCE

I-95 Interchange at Contee Road Design-Build, \$34M (SHA – Prince George’s County, MD) – Structural Engineer leading TS&L, foundation, and final design for a new 519 ft. 4-span steel plate girder bridge over I-95. The bridge was constructed as part of an overall SHA interchange project associated with the adjacent Intercounty Connector (ICC) Project. Design and construction schedule met a critical interim completion milestone date, allowing for completion of ICC’s I-95 CD roads. All bridge design was in accordance with AASHTO LRFD Specs.

MD 404 Culvert Replacement, \$300K (SHA – Talbot County, MD) – Lead Structural Engineer for structural, highway, E&S, MOT, permitting and SWM design to replace an existing twin cell pipe culvert with a new culvert. Work included new headwalls and wing walls as well as roadway tie-ins. Traffic will be maintained using a temporary detour under an accelerated bridge construction schedule which limits the road closure to 10 days. Project included evaluation of multiple culvert types including a concrete pipe culvert and precast box culvert.

US 113 from Jarvis Road to Delaware Line, \$11M (SHA – Worcester County, MD) – Structural Engineer for the replacement of the existing concrete box culvert over Carey Branch (10’-6” x 6’-3” in cross-section), as part of the 2½ mile long roadway dualization project. Led the inspection and load rating of the existing concrete box culvert to verify that complete replacement was required. Assisted in development and review of complete design plans which were included within the Design-Build set for replacement of the culvert.

I-495 over Northwest Branch, Deck Widening and Overlay, \$10M (SHA – Montgomery County, MD) – Lead Structural Engineer for preliminary structure and MOT studies, final design, and development of contract documents for a bridge deck widening, LMC

deck overlay, and miscellaneous superstructure and substructure repairs for a 527’ long three-span, deck-truss bridge on the Capital Beltway. Work included site visits, an eight-stage MOT scheme, deck repairs, bridge joint replacements, abutment backwall modifications, traffic barrier upgrades, cost estimates, and construction services.

MD 180 Retaining Wall, \$3M (SHA – Frederick County, MD) – Structural Engineer for the inspection, evaluation, design, and preparation of contract documents for a 400’ long concrete wall to replace an existing stone masonry wall and seven private bridges in an historic district. Work included wall studies, H&H studies, public meeting support, wall and bridge design, preparation of contract documents, bid review and construction phase services. The project was completed under an expedited schedule during construction of adjacent SHA Bridge.

MD 90EB over US 50, \$250K (SHA – Worcester County, MD) – Structural Engineer for the inspection, evaluation, design and preparation of contract documents for superstructure and substructure repairs, including steel beam repairs, bearing and road joint replacement, and concrete column repairs for 4-span steel beam/concrete deck bridge. Work included design of a temporary jacking scheme.

MD 5 Branch Ave Metro Access Phases 1 & 2, \$65M (SHA – Prince George’s County, MD) – Structural Engineer for a project modifying the MD 5 /I-495/I-95 interchange (Phase 1) and constructing a new access road from MD 5 to the Metro Station (Phase 2). Dave performed studies and preliminary design/plans for four retaining walls and reviewed final design in Phase 1. In Phase 2, Dave led the complete design and contract documents preparation for an 85 ft. long steel girder vehicular bridge, a 56 ft. long pedestrian bridge, and five retaining walls for a grade-separated crossing of the lowered MD 5 NBR.

A.ii.1. LEAD DESIGN FIRM - PROJECTS PAST PERFORMANCE



**WALLACE
MONTGOMERY**

Wallace Montgomery (WM) is viewed to be among the top transportation engineering firms in Maryland specializing in the design and construction of highways, bridges, and traffic facilities. For more than 35 years, WM’s professional staff has provided SHA “On-Call” engineering design and site specific contracts that include highway engineering, structural engineering, traffic engineering, geotechnical and pavement engineering, and environmental analyses and design. WM has active SHA professional design services contracts with all of the SHA Offices including Highway Development; Structures; Traffic and Safety; and Materials and Testing. WM’s specific experience along the US 113 Corridor includes the SHA US 113 Site Specific Open-End Contract and an SHA District 1 Supplemental Engineering Services Contract which recently completed a US 113 Phase 2B Safety Evaluation Study and intersection studies with ultimately designing J-Turn intersections for US 113 at MD 12 and MD 365.

WM is currently the number 1 ranked firm for the most recent SHA Statewide Highway Design, Field Surveying, and Structural Engineering Contracts.

DESIGN-BUILD EXPERIENCE

WM has been the Lead Design Firm for five DB projects in Maryland valued at over \$43M and with three of those projects, WM is partnered with American Infrastructure (AI). As the Lead Design Firm, WM has provided final design efforts and secured necessary construction permits and final plans approval to ultimately deliver the completed project. WM has an extensive background with SHA DB procured projects including as an agent to SHA with the upfront Project Planning/NEPA, preliminary engineering design through PI, DB Advertisement Documents preparation services, and providing construction Phase V engineering/GEC support services for projects. WM’s DB experience is summarized in Table A.1.



Table A.1 WM Design-Build Projects

Design-Build Project	Description
I-95 Contee Road Interchange (\$34M)*	Lead Design Firm for realignment & reconstruction of an arterial roadway and new interchange connection with I-95
Fort Meade Mapes Road Water Main (\$2M)*	Lead Design Firm for 7,200 lf of 20-inch DIP water main
Fort Meade WWTP Water Main (\$1M)*	Lead Design Firm for 5,700 lf of PVC water main
MD 2 at Friendship Road (\$2M)	Lead Design Firm for 4-way approach roundabout
MD 30 Relocation (\$43M)	Lead GEC Consultant for new Hampstead bypass roadway
Middletown Road Phase 1B2 (\$7M)	Lead Design Firm for realignment, reconstruction, and dualization of an arterial roadway
US 113 Phase I South, Snow Hill Bypass (\$15M)	Lead GEC Consultant for realignment, reconstruction, and dualization of an arterial roadway
US 113 Phase 3 North, Jarvis Road to Delaware Line (\$11M)	Lead GEC Consultant for realignment, reconstruction, and dualization of an arterial roadway

** WM served as Lead Designer and AI served as Lead Contractor on these DB projects.*

PROJECTS PAST PERFORMANCE

WM has chosen three relevant projects to demonstrate our experience with similar scope elements and risks to the PROJECT, design-build delivery, and working for SHA. Detailed descriptions highlighting their relevance to the PROJECT are provide on Form A-2, and are summarized in Table A.2 Relevance of Past Performance.

Table A.2 Relevance of Past Performance

Criteria	I-95 Interchange at Contee Road	Middletown Road Phase 1B2	US 113 Dualization
MD SHA	✓		✓
Design-Build	✓	✓	✓
Roadway Widening	✓	✓	✓
Two-Lane to Four-Lane Divided Highway	✓	✓	✓
New Pavement Construction	✓	✓	✓
Pavement Rehabilitation	✓	✓	✓
Intersection Reconfiguration	✓	✓	✓
Stormwater Management Facilities	✓	✓	✓
Culvert Installation/Extension	✓	✓	✓
Reforestation	✓	✓	✓
Stream Crossings/ Wetlands	✓	✓	✓
Maintenance of Traffic/Phased Construction	✓	✓	✓
Minimized Community Impacts	✓	✓	✓
Utility Relocations/Coordination	✓	✓	✓
Railroad Coordination			✓

ADDITIONAL RELEVANT WORK EXPERIENCE

In addition to the Project A-2 Forms provided, other recent and relevant experience of WM is overviewed below to provide a more complete understanding of our relevant design qualifications for the PROJECT.

US 113 J-Turn Study and Design – For SHA District 1, WM completed a comprehensive intersection safety/ capacity study for the MD 12 and MD 365 intersections along US 113 near Snow Hill. The at-grade unsignalized intersections were experiencing an elevated number of “far-side” angle accidents. The study recommended the reconstruction of the intersections using “J-Turns”. Following a public meeting, the decision was to incorporate the “J-Turns” for the MD 365 intersection and a signal at the MD 12 intersection.



MD 351 over Pike Branch – For SHA Highway Hydraulics Division, WM designed and prepared construction plans for the replacement of an existing 5½’ x 3½’ box culvert that was hydraulically deficient with a 3-cell 9’ x 4’ concrete box culvert. The project also included roadway profile adjustments, base widening and curb & gutter installation. WM provided extensive H&H analyses/modeling of Pike Branch to size and determine the optimal crossing configuration of the proposed culvert and to document no increases in the 100-year water-surface elevation upstream of the culvert. In addition, bank stabilization design was performed to widen the stream channel to the culvert opening and stabilize the eroding stream banks upstream and downstream of the culvert.

MD 313 at the Chesapeake Railroad – For the MTA, WM designed and prepared construction plans for the rehabilitation of an MD 313 at-grade crossing with the Chesapeake Railroad in Goldsboro, Caroline County, MD. The project consisted of rehabilitating the railroad crossing using treated timber on No. 4 Ballast with a PVC underdrain systems; roadway approach tie-in adjustments and paving; rehabilitation/upgrading of railroad signing and pavement markings; and the installation of railroad flashing signals.

Contract Number: WO6365170

Project Description: US 113 (Phase 3) – From Massey Branch to Five Mile Branch Road

FORM A-2

PROJECT DESCRIPTION

Name of Proposer: American Infrastructure (AI)

Name of Firm: Wallace Montgomery (WM)	
Project Role: <u>Lead Design Firm</u>	
Designer: <u>X</u> Contractor: <u>American Infrastructure-MD (AI)</u> Other (Describe): <u>N/A</u>	
Years of Experience: Roads/Streets: <u>39</u> Bridges/Structures: <u>39</u> Environmental: <u>26</u>	
Project Name, Location, Description and Specific Nature of Work for which Company was responsible: I-95 Interchange at Contee Road (DB), Laurel, MD Construction of 1¼ miles of Contee Road, an urban 4-lane divided arterial road replacing the 2-lane Van Dusen Road, and its grade separated partial cloverleaf interchange configuration connection with the ICC's I-95 CD roadways. Engineering design services include surveying; highway, storm drain/H&H/SWM, and structural designs; geotechnical and traffic (signals/lighting /signing/markings) engineering; TMP/MOT; utility relocation designs (water and conduits) and coordination, landscape architecture, construction documents preparation, public relations, securing environmental permits (SWM, ESC, Reforestation), environmental compliance monitoring, and construction support services. WM was teamed with AI on this DB project. <i>The AI/WM Team's total bid price was \$2M below the project budget –this savings resulted from innovative solutions (Approved ATCs).</i>	
	
Key Project Issues: <u>Bridge Construction</u> – The bridge construction's completion met a critical interim milestone date to allow for the completion of I-95 CD roads. <u>Effective MOT</u> – WM sequenced the project along with road profile refinements to minimize stages and disruption to traffic, and maximize accessibility. <u>Environmental Compliance</u> – WM's SWM design maximized the use of ESD micro-scale facilities to reduce LOD footprint and forest impacts by 4.78 acres and added 13 acres of reforestation. <u>Utility Clearance</u> – The AI/WM Team held Monthly Utility Coordination Meetings to facilitate designs, field activities & expedite relocations with the Project's construction.	Key Staff Involvement: <ul style="list-style-type: none">▪ Eric Sender, PE▪ Will Fiorillo, PE▪ Diane Durscher, PE▪ Roberto Barcena, PE▪ Dave Borusiewicz, PE▪ Matt Allen, PE, PTOE▪ Joan Floura, PLA
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 N. Calvert St. Baltimore, MD 21202	
Contact Name: Mr. David Phillips	Telephone: 410-545-8823
Owner's Project or Contract No.: PG4195172	Fax No.: 410-209-5001
Contract Value (US\$): \$2,851,075 Final Value (US \$): \$3,055,675 - <i>Change Order was issued to incorporate bicycle facilities for compliance with SHA's Policy on Marked Bicycle Lanes.</i>	
Percent of Total Work Performed by Company: 100% / 75% Self-performed	
Commencement Date: December 2011 Original Completion Date as Defined in IFB: Oct. 2014	
Actual Completion Date: Anticipated August 2014	
Any disputes taken to arbitration or litigation? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	


Contract Number: WO6365170

Project Description: US 113 (Phase 3) – From Massey Branch to Five Mile Branch Road

FORM A-2

PROJECT DESCRIPTION

Name of Proposer: American Infrastructure (AI)

Name of Firm: Wallace Montgomery (WM)	
Project Role: <u>Lead Design Firm</u>	
Designer: <u>X</u> Contractor: <u> </u> Other (Describe): <u> </u>	
Years of Experience:	
Roads/Streets: <u> 39 </u> Bridges/Structures: <u> 39 </u> Environmental: <u> 26 </u>	
Project Name, Location, Description and Specific Nature of Work for which Company was responsible: Middletown Road Phase 1B2 Design-Build, Charles County, MD	
As the Lead Design Firm on this design-build project, WM provided professional engineering services for the complete design and preparation of construction documents to realign/reconstruct 1½ miles of Middletown Road from a 2-lane to a 4-lane divided raised median arterial roadway (DS = 50 mph). Services provided include surveying, highway, storm drain (open and closed systems) and SWM design, MOT, ESC, geotechnical & traffic engineering (signals/lighting/signing/markings), utility relocation (water) design & coordination, and landscaping (reforestation assessment) design. <i>The Design-Build Team’s total bid price was \$7.1M in comparison to the project’s budget of \$8M; \$600K in cost savings resulted from reducing the amount of excavation waste and using on-site excavated material for the roadway’s bank run gravel base.</i>	
<p>Key Project Issues: <u>Geometrics</u> – WM refined road geometrics per 50 mph County criteria to minimize excavation waste and accommodate connecting roadways’ intersections; while maintaining the Advertisement Plan’s drainage patterns/SWM concept and the acquired right-of-way. <u>Effective MOT</u> – WM developed staged construction traffic control (in concert with ESC) plans for the project’s construction; while maintaining 2-lane, 2-way traffic and adjacent properties accesses at all times. <u>Environmental Compliance</u> – Alignments & typical sections were established by WM to minimize forest impacts and to maintain or decrease permitted wetland impacts. <u>Utility Clearance</u> – WM established a utility corridor (cleared & rough graded) within the 1st construction stage to allow for SMECO & Verizon aerial relocations concurrent with the project’s construction.</p>	<p>Key Staff Involvement:</p> <ul style="list-style-type: none"> ▪ Eric Sender, PE ▪ Matt Allen, PE, PTOE ▪ Diane Durscher, PE ▪ Dave Borusiewicz, PE
List any awards and/or commendations received for the project: N/A	
Name of Client (Owner/Agency, etc.): Charles County Dept. of Planning & Growth Management	
Address: 200 Baltimore Street, LaPlata, MD 20646	
Contact Name: Mr. John Stevens	Telephone: 301-645-0641
Owner’s Project or Contract No.: VCI 03-4-091	Fax No.: 301-870-3937
Contract Value (US\$): \$702,000	Final Value (US \$): \$702,000
Percent of Total Work Performed by Company: 100% / 93% Self-performed	
Commencement Date: June 2004 Original Completion Date: October 2006	
Actual Completion Date: May 2007 - <i>The project was delayed for 6 months waiting for aerial utility relocations due to a contractual/prior rights dispute between the County and Utility Owners.</i>	
Any disputes taken to arbitration or litigation? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	


Contract Number: WO6365170

Project Description: US 133 (Phase 3) – From Massey Branch to Five Mile Branch Road

FORM A-2

PROJECT DESCRIPTION

Name of Proposer: American Infrastructure (AI)

Name of Firm: Wallace Montgomery (WM)	
Project Role: <u>Lead Design Firm</u>	
Designer: <u>X</u> Contractor: <u>N/A</u> Other (Describe): <u>N/A</u>	
Years of Experience: Roads/Streets: <u>39</u> Bridges/Structures: <u>39</u> Environmental: <u>26</u>	
Project Name, Location, Description and Specific Nature of Work for which Company was responsible: US 113 Dualization – Preliminary & Final Design, Worcester County, MD Through a site specific SHA On-Call Engineering Contract, WM provided engineering services for the dualization of US 113 to a 4-lane divided highway with partial control of access for the <i>Jarvis Road to Delaware Line Phase</i> (2½ miles) and the <i>Snow Hill Bypass Phase</i> (4 miles). Both projects were delivered as Design-Build projects. Services ranged from studies through PS&E including highway, structural, and H&H/SWM design; traffic analysis and engineering; environmental permits; right-of-way plats; public involvement and construction phase support services.	
Key Project Issues: <u>Road Geometrics</u> – WM prepared typical sections and alignments in keeping with the EIS commitments, flat terrain constrains; developed solutions such as 3% cross-slope and selective use of closed section roadways. In addition, WM performed intersection studies for accessibility and safety including consideration of J-Turns and closing of certain median crossovers.	
Key Staff Involvement: <ul style="list-style-type: none">▪ Eric Sender, PE▪ Matt Allen, PE, PTOE▪ Diane Durscher, PE▪ Dave Borusiewicz, PE	
<u>Railroad Crossing</u> – Under the Jarvis Road to Delaware Line Phase, an at-grade railroad crossing exists; requiring extensive coordination with the Maryland & Delaware Railroad. <u>Environmental Compliance</u> – WM performed environmental and hydrologic designs and to confirm SWM requirements and drainage feasibility with right-of-way needs. <u>Utility Clearance</u> – WM established a utility corridor within the Advertisement Document’s to address the challenges of the required utility relocations. <u>Cross Culverts</u> – WM provided structural designs for the replacement of the Carey Branch Box Culvert and a Structural Plate Pipe Arch Culvert extension.	
List any awards and/or commendations received for the project: <i>Under the North Project, the establishment of a Utility Corridor earned a National AASHTO award for Innovation.</i>	
Name of Client (Owner/Agency, Contractor, etc.): Maryland State Highway Administration	
Address: 707 N. Calvert St. Baltimore, MD 21202	
Contact Name: Mr. David Phillips	Telephone: 410-545-8823
Owner’s Project or Contract No.: BCS 98-23AA	Fax No.: 410-209-5001
Contract Value (US\$): \$1,500,000	Final Value (US \$): \$1,426,117
Percent of Total Work Performed by Company: 100% / 85% Self-performed	
Commencement Date: October 1998	Original Completion Date: October 2003
Actual Completion Date: October 2009 - <i>The On-Call Contract was extended by SHA OHD.</i>	
Any disputes taken to arbitration or litigation? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	

A.ii.2. LEAD DESIGN FIRM – ENVIRONMENTAL PAST PERFORMANCE

Minimizing a project’s footprint is paramount to successfully reduce disturbed areas, pollutant discharge and protect natural resources. WM incorporates Environmental Stewardship in our designs as much as practicable. Our staff is trained on the various aspects of environmental features and the importance of each; consequences of temporary and permanent construction impacts; and techniques to avoid and minimize natural resource impacts and disturbed areas.

TECHNIQUES, PRODUCTS, AND PRACTICES

At the start of every project, WM’s design teams perform project site visits to identify environmentally sensitive areas and to locate potential construction access and staging areas. High priority and consideration is given to maximizing buffers and steering clear of environmentally sensitive areas. If existing grass buffers are present, every precaution is taken to preserve them as they will be utilized as a component of runoff treatment. Lower width ESC, such as diversion fence, are used to divert runoff away from environmentally sensitive resources. Innovative designs incorporate the project into the natural environment utilizing contours as much as practicable to reduce grading as well as produce an aesthetically pleasing feature. Whenever possible, low impact SWM facilities are designed that maximize treatment using minimal footprint and low maintenance designs are used to reduce redisturbance.

Table A.3 Techniques to Reduce Environmental Impacts and/or Reduce Waste and Pollution

Technique	Benefit
Bio-swales and Grass Swales	Vegetative filtering and filtration
Bioretention	Stormwater filtered/seeps into ground rather than to stream
Planter Boxes	Vegetative filtering and bioretention media - urban
Maintenance of Stream Flow	Diverts clear water from construction site
Diversion Channel	Diverts clear runoff from construction site
Pump Around Practice	Transports water away from construction site
Flexible Diversion Pipes	Easily moved and adjusted during construction
SSF vs. SF	Over designing for current criteria
Reducing Footprint for Consolidated Access	Smaller earth and vegetation disturbance
Maintain Drainage Pattern During Construction	Less regrading needed during construction
Non Rooftop Disconnect	Vegetation filters runoff without structural BMPs
Converting Private Ponds to Joint-Use Facilities	Minimize new disturbance while upgrading standards
20-Acre Grading Unit	Reduces open cut grading on construction site
Divert Offsite Drainage	Minimize the burden of E&S controls
Same Day Stabilization	Minimize erosion from active construction site
Vegetative Stabilization	Reduces velocity and adds filtering
Water Quality Inlets	Provides water quality within roadway footprint
Retaining Walls	Reduces ultimate LOD impacts
Longer Bridge Length	Span floodplains and wetlands
Reclaimed Asphalt	Uses recycled materials to reduce waste
Bottomless Culverts	Minimize impacts to Waters of the US (WUS)

WM has used a variety of design techniques and practices to reduce impacts to natural resources and pollutants put into the environment from our projects. Techniques range from using retaining walls, longer bridges, geometric improvements, and low footprint SWM practices to reduce the LOD and environmental impacts to using specific ESC or SWM practices to reduce erosion and improve pollutant reduction.

In order to avoid wetlands and waterways, WM has utilized *retaining walls* for projects such as Kinder Farm Park Turf Fields. The fields were being raised and grade flattened which would have easily caused encroachment on to the adjacent wetland. This retaining wall was suggested by WM to shorten the permitting process and to protect environmental features. Retaining walls were also used to avoid wetlands and waterways at US 301 at MD 304. The new entrance ramp was placed on fill material to match the height of SB US 301 and crossed over a stream adjacent to SB US 301. A box culvert crossing was designed for the stream and the retaining wall was suggested by WM to reduce impacts to the wetlands and waterway below the culvert.

WM has proposed *bridges that span the entire floodplain* to minimize environmental impacts and permitting efforts for the Crescent West project and for Cherry Hill Road. WM has proposed bottomless culverts for Dutchman’s Lane and Lusby Southern Connector Road to minimize impacts to WUS and provide fish passage.

WM incorporated *geometric improvements* to limit right-of-way impacts on the I-95 Contee Road Design-Build project. When additional roadway widths were required to match a proposed project, WM suggested reducing the median width to avoid additional right-of-way and environmental impacts.

WM incorporated SWM innovations in urban settings most recently for the Purple Line Light Rail project. WM suggested and designed unique *bioswale planter box facilities* that produce the same benefits as a bio-swale in a roadside ditch with a smaller footprint. Another advantage is they are surface fed and do not have large drops from end to end meaning it is easy to tie-back into adjacent storm drain systems with little or no effect to the elevations of the storm pipes. This is essential where utility crossings are prevalent and space is limited for deep cut areas.

WM has used proprietary *water quality inlets* to integrate SWM into the surrounding areas without additional grading. WM has used Filterra inlets on Longmeadow Road at Marsh Pike in Washington County and J.W. Williams Road in Calvert County. Both projects were in semi-urban settings with steep slopes and existing storm drains in place. The J.W. Williams Road project was located between a nature conservation area and school property—neither of which could be impacted. Washington County recommended the use of Filterra inlets for Longmeadow Road at Marsh Pike, which initially were not widely accepted by Maryland Jurisdictions due to the continual maintenance requirements. However, then knowing that Counties were accepting of the practice; WM recommended them for J.W. Williams Road and other recent transportation projects.

On two recent design projects, WM incorporated *step pools* to discharge concentrated flows at areas of steep slopes. Step pools provide added protection against sediment pollutants since it slows down the runoff before entering the stream bed. For WM's Dunkirk Park and Ride Project, our design allowed for treatment with one pocket pond and two pocket sandfilters each constructed with weir wall outfalls and accompanying step pools to traverse steep slopes to the stream. For the WB&A Trail Project, WM developed an innovate combination of an ESD bio-swale that led to a culvert under the trail and then down a step pool system to the stream.

ESC innovations used by WM reduce the LOD and erosion potential. Phased construction is preferred to minimize amount of exposed earth during clearing and grubbing. WM uses clear water diversions for offsite runoff to minimize the burden on E&S controls and reduce runoff which would ultimately create erosive conditions. ESC devices that reduce width (such as diversion fence instead of earth dike) minimize impacts. Use of stabilization methods such as stabilization matting or sod instead of spray on seed and mulch reduces waste of washed out seed.

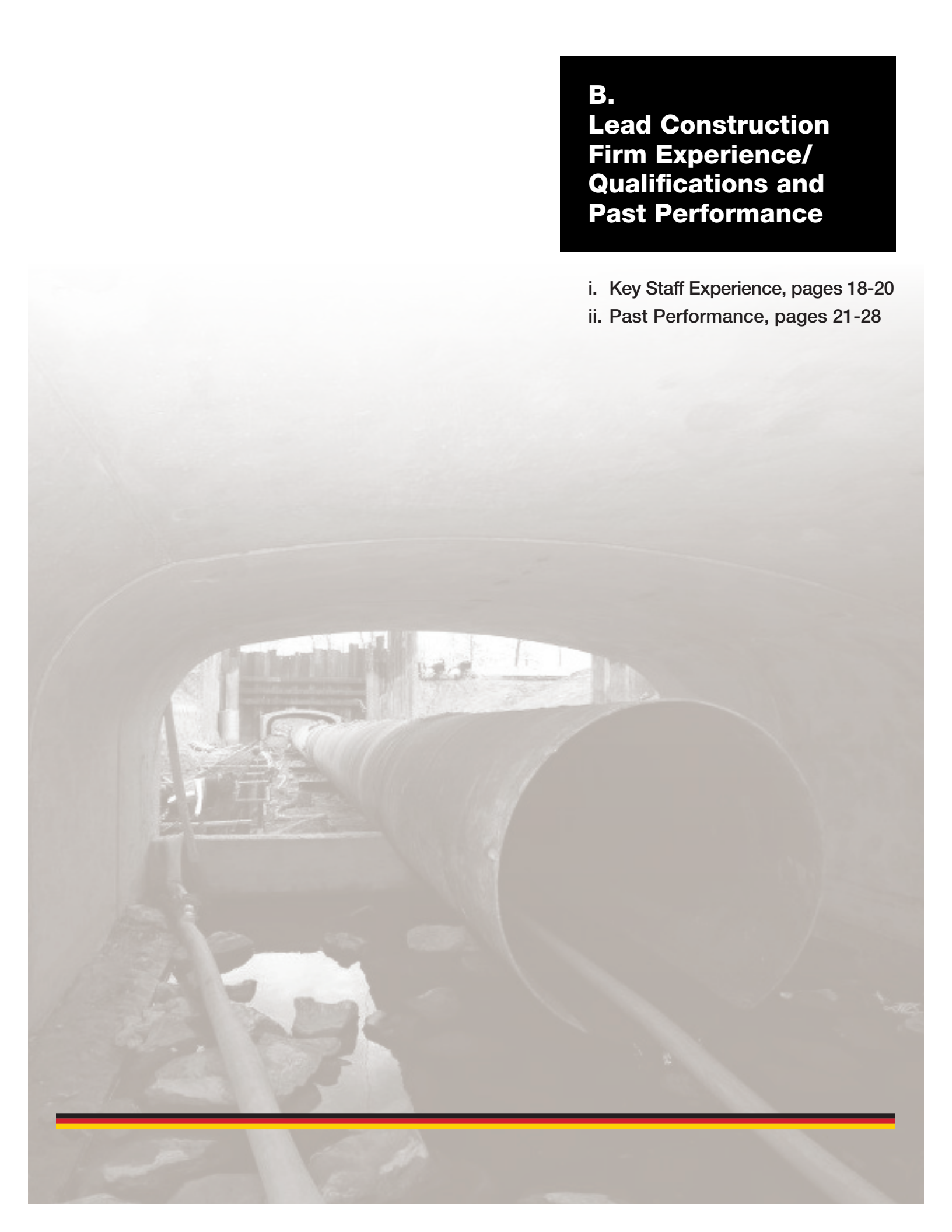
Another type of pollutant removal practice is *stream restoration* which WM incorporated in the design for the US 301 at MD 304 project. WM suggested stream restoration when it was discovered that the meandering stream was cutting away at the US 301 embankment upstream of a proposed ramp alignment. The stream restoration design consists of toe boulders adjacent to the stream on the side of US 301 and an overbank flood bench area on the far side. The overbanks will be lined with coir fiber soil stabilization matting.

APPLICATION FOR US 113 PROJECT

Identified constraints for the PROJECT include relatively flat slopes, existing roadway alignment, wetland impacts, forest impacts, and high ground water. The primary sources of reducing pollutants will stem from using the existing roadbed footprint in conjunction with matching roadway existing geometry to reduce the amount of cut and fill. The team is prepared to use phased construction to minimize the amount of exposed earth. WM will design linear ESD facilities adjacent to US 113 where applicable to reduce the overall project footprint, minimizing forest impacts and land disturbance. These methods will reduce impacts and leave existing vegetative buffers intact. Since the PROJECT has an established existing roadbed, mill and overlay practices will be implemented where feasible thereby reducing material impacts.

WM will review existing environmental permits for the PROJECT to identify impacts authorized and ensure all permits are secured. In the wetland permit, we may identify temporary and permanent impacts authorized, stream closure periods, and special conditions. Though not identified in the Draft RFP, there could be incentives for resource impact reductions and we will review permits and resources early on to identify any additional design changes or construction methods that would minimize impacts. Successful design solutions WM has used include *relocating staging areas*, *modifying the maintenance of stream flow* plan, changes to the *sequence of construction*, use of *mulch mat for construction access*, and *tree protection measures*. Larger-scale reductions have been achieved with *Alternate Technical Concepts*, resulting in changes in grading and LOD.

WM is familiar with the location of the PROJECT due to our many design projects along the US 113 corridor and surrounding vicinity. WM has a proven track record of minimizing project footprints, reducing pollutant discharge, and minimizing impacts to environmentally sensitive resources.



**B.
Lead Construction
Firm Experience/
Qualifications and
Past Performance**

- i. Key Staff Experience, pages 18-20
- ii. Past Performance, pages 21-28

Contract Number: WO6365170

Project Description: US 133 (Phase 3) – From Massey Branch to Five Mile Branch Road

FORM A-1

PROPOSED KEY STAFF INFORMATION

Name of Proposer: American Infrastructure (AI)

Position	Name	Years of Experience¹	Education/ Registrations	Name of Employer
Design-Build Project Manager	Lewis Glassmire, Jr.	14/39	<ul style="list-style-type: none">▪ BS/Civil Engineering▪ Engineer-In-Training▪ OSHA 10 Hour▪ OSHA 30 Hour	American Infrastructure
Construction Manager	William Sigafoose	1/14	<ul style="list-style-type: none">▪ BS/Urban Planning and Regional Development▪ OSHA 10 Hour▪ MDE E&SC “Green Card” Certification▪ MD SHA Erosion & Sediment Control “Yellow Card” Certification	American Infrastructure

¹ Present Firm/Total

EDUCATION: BS in Civil Engineering, Pennsylvania State University, 1975

EXPERIENCE: 15 Years with AI, 39 Years in Industry

PROFESSIONAL REGISTRATIONS:

- MDE E&SC “Green Card” Certification
- MD SHA Temp Traffic Manager “Orange Card”

QUALIFICATIONS & EXPERIENCE

Lew has over 39 years of experience in heavy civil construction and project management. Lew’s current role at AI is Construction Manager and he is responsible for managing projects in the public and private sector. His experience includes managing large highway and bridge projects ranging in size up to \$211M. *He has been the DBPM on three DB projects in MD and has prepared eight other proposal packages for design-build work in the past ten years including three while teamed with Wallace Montgomery.* He has built over \$125M in work for SHA in the past 5 years. Through his years of highway experience, he has learned to manage complicated MOT projects, ensure environmental regulation

compliance, and encourage a culture of safety-first for his work force.

PROJECT EXPERIENCE

I-95 at Contee Road Interchange Design-Build, \$33.9M (SHA – Laurel, MD) – DBPM for the construction of a new interchange on I-95 between MD 198 and the Inter-County Connector that will benefit current and future development east and west of the I-95 corridor. AI teamed with WM on this project. The roadway improvements include a divided 4-lane urban arterial road replacing the existing 2-lane Van Dusen Road, a grade separated partial cloverleaf interchange connection with I-95, and a new bridge over I-95. The AI/WM Team’s accepted Alternative Technical Concept shortened the bridge over I-95 by 82 feet to 519 feet in length. Coordination of an expedited design resulted in completion of the new bridge four weeks ahead of schedule. The advertised SWM plan was optimized during the design phase eliminating the need for two basins through the use of bio-swale and bio-retention treatment facilities.

U.S. 40 at MD 715 Interchange Improvements Design-Build, \$17.7M (SHA – Harford Co., MD) – DBPM for the reconstruction of the interchange at U.S. 40 and MD 715 and upgrade of MD 715 from a 4-lane to a 6-lane highway. Adjacent to Aberdeen Proving Ground (APG), the project was needed to accommodate additional personnel being relocated to APG as part of the BRAC. Scope of work included widening MD 715 bridge over U.S. 40, new ramps, intersection reconstruction, signalization and lighting, stream relocation, drainage, SWM, and relocation of Aberdeen and APG utilities.

MD Route 43, \$49.3M (SHA – White Marsh, MD) –Sr. Construction Manager for the construction of 3.8 miles of new four-lane divided highway through environmentally sensitive wetlands and watershed adjacent to the Chesapeake Bay. The scope of work included construction of five new bridges, rehabilitation of four existing bridges, and installation of three parallel runs of 84” RCP pipe allowing

wetlands water flow from one side of the highway to the other. The extensive earthwork included 13 on-site SWM ponds, off-site wetland mitigation and continual E & S management provided by a full-time dedicated crew. AI completed the project on time and received recognition from SHA and ABC for their precautions taken in the Wetlands/Watershed.

I-95 Express Toll Lanes from Rossville Blvd. to Campbell Blvd., \$53M (MTA – Baltimore Co., MD) – Sr. Construction Manager for the construction of 1.80 miles of I-95 north of the I-695 interchange including contingent repairs to the existing MD 43 bridges over I-95. Reconstruction of the existing eight-lane divided highway to eight general purpose lanes and four express toll lanes separated by concrete barriers. Scope included over 300,000 CY of excavation; major sediment & erosion control measures due to proximity to the Chesapeake Bay including new wetland mitigation facilities; new storm drain improvements with 41,500 lf of underground utilities; arch culvert replacement under the entire width of I-95; four new SWM facilities; new retaining wall structures and construction of three noise walls; and over 206,000 TN of asphalt. Comprehensive MOT planning was conducted to ensure traffic flow was uninterrupted on this busy corridor.

U.S. Route 460 Corridor Improvements Design-Build, \$1.4B (VDOT – Petersburg to Suffolk, VA) – Sr. Construction Manager for this design-build-finance project constructing approx. 55 miles of four-lane divided, limited-access highway connecting Petersburg & Suffolk, Va. The scope includes 83 bridges, 7 interchanges, and two termini interchanges. The new road will provide significant safety improvements with minimal impact to the environment and surrounding communities. Project spans five different counties and requires permitting coordination with multiple jurisdictions.

EDUCATION: BS in Urban Planning and Regional Development, Frostburg State University, 2000

EXPERIENCE: 1 Year with AI, 14 Years in Industry

PROFESSIONAL REGISTRATIONS:

- OSHA 10 Hour
- MDE E&SC “Green Card” Certification
- MD SHA E&SC “Yellow Card” Certification

QUALIFICATIONS & EXPERIENCE

Will has eighteen years of construction and project management experience and project delivery serving both private and government/public interests. His focus has been in field operations and project management applications related to site utilities, highway / roadway construction, storm water management, flood control, landfill gas recovery systems (LFG) and pumping stations. Will has significant experience in the management of complex and concurrent contracts requiring detailed attention to customer and owner needs and coordination between parties. He has a strong background in contract management, contract law, critical path scheduling, resource planning and budget cost analysis. *Through his role as CM on the I-95 at Contee Road Interchange DB project, Will understands successful DB project delivery for SHA and has developed a strong relationship with Design-Build Project Manager, Lew Glassmire.*

PROJECT EXPERIENCE

I-95 at Contee Road Interchange DB, \$33.9M (SHA – Laurel, MD) – Acting Construction Manager for the design and construction of a new interchange on I-95 between MD 198 and the Inter-County Connector to benefit current and future development east and west of the I-95 corridor. AI teamed with WM to deliver this project for SHA. The roadway improvements include a divided 4-lane urban arterial road replacing the existing 2-lane Van Dusen Road, a grade separated partial cloverleaf interchange connection with I-95, and a new bridge over I-95. The AI/WM Team’s accepted Alternative Technical Concept shortened the bridge over I-95 by 82 feet to 519 feet in length. Coordination of an expedited design resulted in completion of the new bridge four weeks ahead of schedule. The advertised SWM plan was optimized during the design phase eliminating the need for two basins through the use of bio-swale and bio-retention treatment facilities.

Dorsey Run Road, \$10M (Howard County – Howard Count, MD) – Project Manager for the construction of new two-lane road to connect two existing portions of Dorsey Run road. Scope includes utility relocation, earthwork, SWM, grading, and 8” of paving with GAB underneath. AI is responsible for diverting two stream crossings and is installing two arch span culverts for stream crossings.

Oak Grove/Leeland Road Water Main, \$6M (Washington Suburban Sanitary Commission – Upper Marlboro, MD) – Project Manager for the installation of 11,000 lf of 16” and 24” cement lined and welded steel pipe through a highly congested area including an extremely narrow roadway and a CSX track crossing that required jack and bore installation of 105 lf of tunnel casing. AI utilized stringent E&S controls and BMPs to minimize impacts to the environmentally sensitive regions the project went through.

US Capitol Visitor’s Center, \$7M (Centex/AOC – Washington, DC) – Senior Project Engineer/Project Manager for the installation of all underground site features including wet/dry utilities and CIP construction of two tunnels that provided access portals from the new center to various end points (Library of Congress and truck access to Constitution Ave). Work required close coordination with designers, Centex and Federal representatives from AOC and applicable oversight committees.

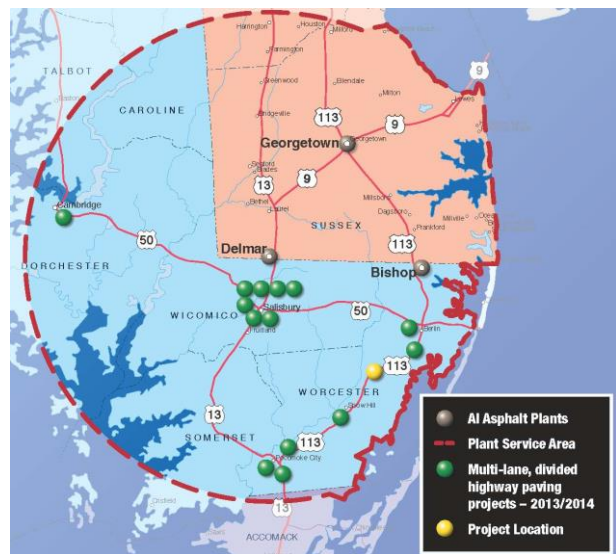
Dulles Corridor Metrorail Extension – Phase 1, \$15M (DTP – Vienna, VA) – Division Manager for the installation of transformer and control pads/precast buildings with associated site work, including substantial support of excavation, utility installation, power and signal transmission raceways, post and panel barrier wall, inclusive of all E&S controls and pavement/greenway restoration. Work required extensive coordination with other contractors, adjacent property owners and representatives of MWAA. Special considerations given to schedule mitigation and DBE/MBE compliance standards.

Potomac Interceptor Sewer Main, \$13M (Arlington County Gov’t - Arlington, VA) – Division Manager for the installation of approx. 7,500 LF of 48” Hobas gravity sewer main and associated structures through length of Arlington National Cemetery and associated properties. Scope included placement of main line (portion via tunnel boring), installation of access manholes and junction structure construction (CIP), relocation of existing features, demolition and rebuild of approx. 10,000 SY of full depth roadway with associated under drain and curb/gutter. Project required substantial coordination with Arlington County, VDOT, Arlington National Cemetery, NPS, the Pentagon and Navy Annex, and representatives of impacted residents and business owners.

B.ii.1. LEAD CONSTRUCTION FIRM - PROJECTS PAST PERFORMANCE

American Infrastructure (AI) is a vertically integrated, heavy civil contractor that has provided quality construction services throughout the Mid-Atlantic region since 1939. With 7 offices, 5 quarries, and 12 asphalt plants, our footprint allows us to serve clients efficiently in 5 states. AI has performed over \$2.3B of construction in the Mid-Atlantic area over the last five years, including 9 interstate widening projects valued at \$698M. Currently ranked #25 in Top 50 Domestic Heavy Contractors by *Engineering News-Record*, AI has a workforce of over 400 employees and 500 pieces of heavy equipment in Maryland. In the Mid-Atlantic Region, AI’s resources include a total of 1,500 employees and 1,300 pieces of heavy equipment. *AI’s has three asphalt plant locations that can service the entire southern eastern shore region.* This enables us to monitor quality of materials and maintain production on all paving projects. Our current backlog of eastern shore projects provides us with knowledge of the challenges associated with the PROJECT and the specifications required to pave in the area. Our Bishop Plant is less than 15 miles from the PROJECT ensuring quality and serviceability. At AI, safety is paramount to everything we do. **Home Safe Tonight (HST)** is a commitment, both personal and organizational, to be incident and injury free. Since the implementation of **HST** in 2008, AI has reduced its recordable incident rate by 70% and is consistently trending with the *Best in Class* TRIR rate of 1.0.

AI current eastern shore projects



DESIGN-BUILD EXPERIENCE

As the Lead Contractor, AI has been awarded 13 Design-Build (DB) projects across the Mid-Atlantic region valued at over \$675M. AI’s DB experience is summarized in Table B.1. Our extensive experience with complex design-build delivery projects will ensure the risks associated with the Project are identified early, appropriately allocated, and mitigated to avoid to provide MD SHA with cost and schedule certainty for the Project.

Table B.1 AI Design-Build Projects

Design-Build Project	Description
I-95 at Contee Road Interchange (\$33.9M)*	Realignment/reconstruction of an arterial roadway and new interchange through environmentally sensitive area
Rte. 460 Corridor Improvements (\$1.3B) (JV)	55 miles of new four lane divided highway
Middle Ground Boulevard Extension (\$34M)	1.2 miles of new four lane divided highway
I-581 Elm Ave. Interchange (\$20.3M)	Improve interchange, widen road, new bridges over rail
Walney Rd. Bridge Replace/Widening (\$11M)	Widen 0.6 miles of two lane highway to four lanes
Rolling Rd./Franconia-Springfield Parkway Interchange Improvements (\$9.8M)	Upgrade interchange loop ramp, bridge rehab, new shoulders, median improvements
Fort Meade Mapes Road Water Main (\$2M)*	Installation of 7,200 lf of new 20-inch DIP water main
Fort Meade WWTP Water Main (\$1M)*	Installation of 5,700 lf of new 10-inch PVC water main
I-476 Widening and Reconstruction (\$86.4M)	4 miles reconstruction/widening 6-lane divided highway
US 40 Interchange at MD 715 (\$17.7M)	2.4 miles of highway widening from 4 lanes to 6 lanes
I-695 Widening from I-97 to MD-10 (\$9.5M)	3 miles of lane widening in heavily traveled region
Rte. 895 Richmond Airport Connector (\$39M)	1.6 miles of new four lane access highway
Rte. 29 Bridge over Tye River (\$6.8M)	Replacement of 650’ bridge over Tye River

** AI served as Lead Contractor and WM served as Lead Designer on this DB project.*

PROJECTS PAST PERFORMANCE

AI has selected the three relevant projects to demonstrate our experience with similar scope elements and risks to the PROJECT, design-build delivery, and working for MD SHA. Detailed descriptions highlighting their relevance to the PROJECT on Form A-2, and are summarized in Table B.2 Relevance of Past Performance.

Table B.2 Relevance of Past Performance

Criteria	I-95 Interchange at Contee Road	MD 43 Extension	I-95 Express Toll Lanes
MD SHA	✓	✓	
Design-Build	✓		
Roadway Widening	✓	✓	✓
Two-Lane to Four-Lane Divided Highway	✓	✓	
New Pavement Construction	✓	✓	✓
Pavement Rehabilitation	✓	✓	✓
Intersection Reconfiguration	✓	✓	
Stormwater Management Facilities	✓	✓	✓
Culvert Installation/Extension	✓	✓	✓
Reforestation	✓	✓	
Stream Crossings/ Wetlands	✓	✓	✓
Maintenance of Traffic/Phased Construction	✓	✓	✓
Minimized Community Impacts	✓	✓	✓
Utility Relocations/Coordination	✓	✓	✓
Railroad Coordination		✓	

ADDITIONAL RELEVANT WORK EXPERIENCE

In addition to the projects included on Form A-2, other recent/relevant experience that demonstrates successful DB delivery and experience maintaining traffic along the US 113 Corridor/Eastern Shore is highlighted below.

Richmond Airport Connector Road (ACR) – This DB project constructed 1.6 miles of new four-lane roadway to provide motorists with direct access to the Richmond International Airport from Route 895. The project constructed an interchange at Route 895, reconfigured an existing at-grade intersection, and widened Charles City Road to handle the additional traffic. The challenges included an environmentally sensitive site, an aggressive schedule, and unsuitable soils. AI worked with key stakeholders to provide value engineering solutions including adjusting the roadway alignment to reduce overall excavation, altering the storm water management design for ease of constructability, and shortening the length of the bridges to reduce future maintenance costs.

“ACR experienced its fair share of the inevitable issues that will arise during the life of a project. What set this project apart from others was the manner in which the issues were addressed. The team managed to separate the issues from other ongoing efforts in a manner that allowed the project to continue making progress while the issue received the necessary focus.” – Richard Prezioso, Transurban PM

US 113 Corridor and Eastern Shore Experience – Our experience working along this corridor, and with District 1, has been through the successful completion of numerous projects within multi-lane, divided, non-access controlled highways. This experience brings a specific understanding of the coordination required to minimize impacts to the public during construction of the PROJECT. AI has paved sections of US 113 from Delaware through Maryland and into Virginia, including projects in Worcester and Wicomico Counties and a section of 113 North of this Phase 3 Project. AI has also maintained traffic on multi-lane, divided, non-access controlled highways along US 13 in Dover; US 13 near Pocomoke City; US 50 from MD 818 to Wicomico County Line; and VDOT 510 from US 13 through Accomack and Northampton Counties, Virginia.


Contract Number: WO6365170

Project Description: US 113 (Phase 3) – From Massey Branch to Five Mile Branch Road

FORM A-2

PROJECT DESCRIPTION

Name of Proposer: American Infrastructure (AI)


Name of Firm: American Infrastructure (AI)	
Project Role: <u>Design-Builder, Lead Contractor</u>	
Designer: <u>Wallace Montgomery (WM)</u> Contractor: <u>X</u> Other (Describe): _____	
Years of Experience: Roads/Streets: <u>75</u> Bridges/Structures: <u>30</u> Environmental: <u>40</u>	
Project Name, Location, Description and Specific Nature of Work for which Company was responsible: I-95 Interchange at Contee Road (DB), Laurel, MD Construction of 1¼ miles of Contee Road, an urban 4-lane divided arterial road replacing the 2-lane Van Dusen Road, and its grade separated partial cloverleaf interchange configuration connection with the ICC's I-95 CD roadways. AI was teamed with WM on this project. <i>The AI/WM Team's total bid price was \$30.7M in comparison to the Project's budget of \$33.5M; \$2M in cost savings resulted from innovative solutions - ATCs.</i> Completion of the new bridge and demolition of the existing overpass was required by August 2013. AI/WM's Alternative Technical Concept shortened the bridge by 82 feet to 519 feet in length, which was coordinated with the adjacent design-build contract. Coordination of an expedited design resulted in completion of the new bridge four weeks ahead of schedule. The stormwater management plan was optimized during the design phase eliminating the need for two basins through the use of bio-swale and bio-retention treatment facilities while meeting the performance specifications. Forest impacts were reduced by 4.78 acres and reforestation was achieved for 13 acres above what was required. Utilities relocated under the contract include Verizon, Comcast, BGE gas, BGE electric, and WSSC water mains. Monthly utility coordination meetings were held to expedite relocations. Coordination of design and relocation of several private utilities was completed prior to final roadway grading and was a key component to meeting the milestone for bridge construction.	
	
AI Staff Involvement: <ul style="list-style-type: none">▪ Lewis Glassmire ☆▪ Will Sigafosse ☆▪ Brad Buchler▪ Richard Dungan, PE▪ Bart Gibson▪ Dustin Longchamps▪ Rich Slamon▪ Kevin Denny▪ Rick Tisa▪ Neph Eyassu▪ Alex Gerkovic▪ Nate Brenneman ☆ Indicates Key Staff	
List any awards and/or commendations received for the project: N/A	
Name of Client (Owner/Agency, Contractor, etc.): Maryland State Highway Administration	
Address: 9300 Kenilworth Avenue, Greenbelt MD 20770	
Contact Name: Mr. Mark Dougherty	Telephone: 301-710-7342
Owner's Project or Contract No.: PG4195172	Fax No.: 301-513-7415
Contract Value (US\$): \$30,700,000	Final Value (US \$): \$33,911,846
<i>Increase in value was due to owner approved changes to the scope.</i>	
Percent of Total Work Performed by Company: 100% / 75% Self-performed	
Commencement Date: December 2011 Original Completion Date: as Defined in IFB: Oct. 2014	
Actual Completion Date: Anticipated August 2014	
Any disputes taken to arbitration or litigation? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	

Contract Number: WO6365170

Project Description: US 113 (Phase 3) – From Massey Branch to Five Mile Branch Road

FORM A-2
PROJECT DESCRIPTION

Name of Proposer: American Infrastructure (AI)

Name of Firm: American Infrastructure (AI)	
Project Role: <u>Lead Contractor</u>	
Designer: <u> </u> Contractor: <u>X</u> Other (Describe): <u> </u>	
Years of Experience: Roads/Streets: <u>75</u> Bridges/Structures: <u>30</u> Environmental: <u>40</u>	
Project Name, Location, Description and Specific Nature of Work for which Company was responsible: MD 43 Extension, White Marsh, MD Construction of 3.8 miles of new four-lane divided highway through environmentally sensitive wetlands and watershed adjacent to the Chesapeake Bay. The scope of work included construction of five new bridges, rehabilitation of four existing bridges, and installation of three parallel 180' runs of 84" RCP Pipe allowing wetlands water flow from one side of the highway to the other. Site preparation required over 90 acres of clearing and grubbing; 600,000 cy of excavation; and 1.2 million cy of on-site borrow. The extensive earthwork required 13 on-site SWM ponds, off-site wetland mitigation, and continual E&S management. Conducting work in an environmentally responsible manner in sensitive wetland areas required detailed planning and preparation to minimize impacts. <i>AI, the designer, and SHA coordinated well in advance of the commencement of work to ensure designs and ensuing construction did not adversely impact the designated and sensitive wetland areas.</i> During construction, the utilities were redesigned to accommodate future utility expansions based on expected utility demands from new, large development project(s) planned in the area. Implementing this change required rapidly facilitating a collaborative planning environment with all of the identified stakeholders including local and state governments, private utility owners, utility operators, and the community. Despite extensive MOT requirements involving bridge work over MD Route 40 and Amtrak and MARC Facilities, the project stayed on schedule. AI coordinated construction sequencing with MTA's park and ride and maintenance facility.	
	
AI Staff Involvement: <ul style="list-style-type: none">▪ Lewis Glassmire ☆▪ Richard Dungan, PE▪ Rich Slamon▪ Rick Tisa▪ Nate Brenneman▪ Brad Buchler ☆ Indicates Key Staff	
List any awards and/or commendations received for the project: <i>ABC Excellence in Construction</i>	
Name of Client (Owner/Agency, Contractor, etc.): Md. State Highway Administration – Dist. 4	
Address: 320 West Warren Road, Hunt Valley, MD 21030	
Contact Name: Mr. Donald Schaefer	Telephone: 410-215-8274
Owner's Project or Contract No.: BA8475171	Fax No.: 410-321-2808
Contract Value (US\$): \$42,267,000	Final Value (US \$): \$49,356,000
<i>Increase in value for additional work, specifically at the MTA/MARC train facility, rehabilitation of the existing bridges, environmental remediation, utility duct banks, and quantity overruns.</i>	
Percent of Total Work Performed by Company: 100% / 75% Self-performed	
Commencement Date: July 2003	Original Completion Date as Defined in IFB: November 2006
Actual Completion Date: November 2006	
Any disputes taken to arbitration or litigation? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	



Contract Number: WO6365170

Project Description: US 113 (Phase 3) – From Massey Branch to Five Mile Branch Road

FORM A-2

PROJECT DESCRIPTION

Name of Proposer: American Infrastructure (AI)

Name of Firm: American Infrastructure (AI)	
Project Role: <u>Lead Contractor</u>	
Designer: ___ Contractor: <u>X</u> Other (Describe): _____	
Years of Experience: Roads/Streets: <u>75</u> Bridges/Structures: <u>30</u> Environmental: <u>40</u>	
Project Name, Location, Description and Specific Nature of Work for which Company was responsible: I-95 Express Toll Lanes, Baltimore County, MD	
<p>Reconstruction of the existing eight-lane divided highway to eight general purpose lanes and four express toll lanes north of the I-695 interchange between Rossville Boulevard and Campbell Boulevard. The length of the project was 1.80 miles and contingent repairs to the existing MD 43 bridges over I-95 were included in the scope of work. Four lanes of traffic were maintained through this congested corridor while widening to the outside of Northbound and Southbound I-95. Once the new outside lanes were completed, traffic was placed on these lanes & the middle of I-95 was reconstructed. AI developed work sequences to minimize disruptions to the flow of traffic and performed the bulk of the work at night to utilize longer closure times and reduce impact to the traveling public.</p>	
<p>The project included 243,500 CY of excavation; significant E&S measures due to proximity to the Chesapeake Bay; carbide grinding and resurfacing; full depth pavement construction; resurfacing totaling 206,000 TNs of asphalt; storm drain improvements; storm water management and wetland mitigation facilities; retaining/noise walls; signing and marking; and ITS.</p>	
<p>The project required the phased replacement of a deteriorating large diameter structural plate pipe arch culvert under the entire width of I-95 with a pre-cast concrete arch culvert. This environmentally sensitive critical path item physically divided the project and the stream was subject to drastic flow fluctuations during storm events.</p>	
<p>AI Staff Involvement:</p> <ul style="list-style-type: none">▪ Lewis Glassmire ☆▪ Richard Dungan, PE▪ Rick Tisa▪ Rich Slamon▪ Nate Brenneman▪ Brad Buchler <p>☆ <i>Indicates Key Staff</i></p>	
List any awards and/or commendations received for the project: <i>"A" environmental rating from MTA's environmental consultant</i>	
Name of Client (Owner/Agency, Contractor, etc.): Maryland Transportation Authority	
Address: I-95 ETL Project Office 8019 Corporate Drive – Suite F, Baltimore, MD 21236	
Contact Name: Mr. Gradon Tobery	Telephone: 410-931-0808
Owner's Project or Contract No.: KH 1401-000-006	Fax No.: 410-931-4110
Contract Value (US\$): \$52,477,000 Final Value (US \$): \$53,748,000	
<i>Increase in value caused by owner approved change orders</i>	
Percent of Total Work Performed by Company: 100% / 65% Self-performed	
Commencement Date: August 2007 Original Completion Date as Defined in IFB: October 2010	
Actual Completion Date: October 2010	
Any disputes taken to arbitration or litigation? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	



B.ii.2. LEAD CONSTRUCTION FIRM – ENVIRONMENTAL PAST PERFORMANCE

American Infrastructure (AI) continuously strives to improve our environmental stewardship both organizationally and on each of our construction projects. This commitment is supported by VP of Environmental, Gary Tiller, and Corporate SWPPP Manager, Barry Hallman, who proactively manage and provide corporate oversight and inspection to assure all AI projects are constructed responsibly.

Environmentally responsible business practices that AI utilizes include comprehensive recycling programs, reduce/reuse/minimize strategies, hybrid fleet vehicles, installation of energy efficient lighting and monitors, use of low-sulfur fuel in equipment, and installation of rain gardens/LID features at office locations. Table B.3 describes the benefits of select business practices that reduce waste/pollution.

Table B.3 AI Business Practices that Reduce Waste/Pollution

*AI Environmental Award Read into Congressional Record
Fairfax County, Virginia recognized AI with a 2011 Land Conservation Award for its work at Fosters Creek Residential Development. The award goes to those “who have excelled in their stewardship on the environment by implementing erosion and sediment control measures for soil conservation or increasing tree cover through preservation and planting efforts.”*

Practice	Benefit
Detailed operation planning to incorporate best practices and optimize efficiency.	<ul style="list-style-type: none"> Ensures environmental commitments are met. Reduces the duration of exposure for environmental impacts by efficiently planning all construction operations.
Diesel powered mobile equipment equipped with idle limiters.	<ul style="list-style-type: none"> Conserves fuel and reduces emissions by automatically shutting off idling after 10 minutes.
Green asphalt techniques including recycled asphalt shingles, recycled asphalt pavement, recycled fuel oil, and newer technology for warm mix asphalt.	<ul style="list-style-type: none"> Reduces shingles sent to landfills (5 tons shingles/100 tons of asphalt). Reduced refinery production of virgin asphalt by 20%. Lowers the temperature at which asphalt is reduced and consumes less energy in production and reduces emissions.
Quick turnaround time for truck loading at AI plants and quarries	<ul style="list-style-type: none"> Quicker load times reduces the total engine idling time during loading.
Recycling programs and water filtration at corporate and project office locations.	<ul style="list-style-type: none"> Recycling of approx. 1.5 tons of paper in Maryland each month. Reduce the number of plastic bottles utilized by our employees.

TECHNIQUES, PRODUCTS, AND PRACTICES TO REDUCE ENVIRONMENTAL IMPACTS

AI has an established approach to environmental management based on our 40 years of experience constructing large scale transportation projects including 11 design-build transportation projects. This approach to environmental management can be summarized as:

- Optimize designs to avoid unnecessary environmental impacts, including wetlands and waterways;
- Minimize environmental impacts where avoidance is not reasonable;
- Mitigate impacts to the extent necessary, including reforestation;
- Partner with environmental stakeholders to ensure compliance with environmental commitments;
- Avoid modifications that require NEPA reevaluation and NPDES review;
- Collaborate with environmental stakeholders for necessary permit modifications based on design optimizations that significantly reduce project cost or compress the construction schedule;
- Follow guidelines for Environmental Best Management Practices; and
- Monitor environmental compliance during construction to ensure all commitments are met and construction impacts are minimized.

REDUCTION OF ENVIRONMENTAL IMPACTS ON PAST PROJECTS – AI has initiated the techniques, products, and practices shown in Table B.4 to reduce the environmental impacts from our projects. AI standard practices for pre-storm event preparation include protection of subgrades, installation of diversion dikes to facilitate runoff to sediment basins, and installation/upgrade of additional perimeter control measures. Tracking of sediment off-site is prevented through elongated rock construction entrances, wash racks, and on-site concrete wash-out pits.

Table B.4 AI Initiated Techniques to Reduce Environmental Impacts

Technique	AI Projects that Utilized the Technique
Addition of flocculants to sediment laden water	Fort Meade; Aqua Jersey Shore Intake Pump Station
Reuse of collected water for dust control/concrete curing	SR 222; I-95 Express Toll Lanes; I-95 Interchange at Contee Road DB; MD 43 Extension
Geometry improvements to reduce wetland impacts	I-95 Interchange at Contee Road; Walney Rd. Bridge Replacement/Widening DB
Foot-print reduction using alternative construction techniques	I-95 Interchange at Contee Road DB; Stemmers Run Force Main; Nicodemus Rd Bridge Replacement
Adjustment of length of bridge spans to avoid floodplain impacts	U.S. Route 460 Corridor Improvements DB; Walney Rd. Bridge Replacement/Widening DB
Increased size of perimeter controls	Bush Creek; Little Patuxent Sewer Projects
Reuse of concrete for aggregate/subbase	Chesapeake House; Maryland House

MD 43 Extension – Construction through wetlands/watershed adjacent to the Chesapeake Bay required 13 SWM ponds and installation of three parallel runs of 84” RCP under the roadway to allow the wetlands water flow to remain undisturbed. AI provided a full-time E&S crew dedicated to reducing environmental impacts and protecting the wetlands. *AI received recognition from SHA for precautions taken in the White Marsh Wetlands/Watershed.*



Aqua Jersey Shore Intake Pump Station – Dewatering of 3000 gpm within the cofferdam to facilitate construction required 13 days of pumping disturbed water through a filtration system. AI was directed to add flocculants and utilized a system that included filtration/manifolds, open-top weir tanks, and filter bags. The water quality following the filtration process received a NTU turbidity value below 5 compared to the 1200 NTU turbidity value of the Delaware River.

I-95 at Contee Rd Interchange – *An approved ATC submitted by the AI/WM Team shortened the Contee Road Bridge by 82’, reducing forest impacts by 4.78 acres and allowed for an additional 13 acres of reforestation.* The proposed redesign removed a SWM pond that was designed in the Concept SWM report between I-95, Ramp SW-A, and Ramp C-B. Wetland impacts in the loop were avoided by readjusting the realignment.

Stemmers Run Force Main – AI proposed an alternative construction method for pipe installation in the river. AI installed install two rows of sheet piles across the river with crane mats spanning the sheet piles. Our equipment walked out on the crane mats and we installed the force main within the sheet pile cofferdam. This technique confined the disturbance to the river by 50%.



I-95 ETLs – This project required phased replacement under I-95 NB and SB of an existing deteriorated large diameter CMP culvert with a precast arch culvert while maintaining stream flow through an existing temporary pipe inside the existing pipe and work area. AI value engineered an alternate foundation for the culvert, changing the 98-36” dia. drilled shafts to 240-12” H-piles, that shortened the exposure time to storm events/washouts and erosion/sedimentation by several weeks.

CORRECTIVE ACTIONS AND LESSONS LEARNED

AI proactively prevents and promptly corrects deficiencies, stop work orders, or low ratings related to measures to protect environmental resources. Proactive prevention methods include pre-storm event preparation, a dedicated Environmental Control Manager, and formal follow-up on required remediation/ repairs. The following examples describe the circumstances of and actions taken to correct deficiencies on AI projects.

Contee Road – A stop work order was issued on Friday 4/25/14 due to early conversation of basins, installation of bioswales prior to full stabilization, and required maintenance. Following the stop work order, the project received nearly 7 inches of rain which delayed the require repairs by nearly a week. The repairs were ultimately completed within 13 days and verbal approval to proceed with work was provided on 5/7/14 with a rating of 95.8. AI project staff believed they had verbal approval to deviate from the approved sequence, and has since implemented a best practice to obtain written approval for any deviations from the approved E&S sequence.

Little Patuxent Sewer – In winter 2010 there were two snow events with accumulation of 48". During the snow melt, MDE inspected the site and issued a violation to Howard County since they were the permit holder and Howard County requested that AI pay the violation. AI was later reimbursed for all corrective measures required, including slope repair and super silt fence installation, due to the excessive amount of snow melt classified as an “act of God” not covered by the contract. AI now evaluates perimeter controls for adequacy prior to major events and install additional measures in anticipation of the runoff that will occur following the event.

MD 144 –AI was issued a stop work order for being out of sequence at 4:40 pm on 7/7/11. Construction was started in Stage 2, with the appropriate control measures in place, prior to completion of Stage 1 in another area of the project. AI submitted a modification to MDE to adjust the construction sequence and separate the areas, which was approved by 1pm the following day (7/8/11). The lesson learned was to obtain written approval for any changes prior to deviating from the approved E&S sequence.

I-95 Express Toll Lanes – AI was issued a stop work order on the I-95 ETL project at 3:00 PM on 10/29/2008 following a rain event that was restored to a B rating by 11:30 am the next day. AI was making a stream tie-in to divert the new channel into a new headwall. A dirt dam was in place to be removed. Though the channel flow was minimal to dry, it was determined that a pump around was needed and thereby installed the next morning which permitted the work to be performed. Utilization of sand bags or pumping around for stream tie-ins limits the potential for sediment laden water to be discharged.

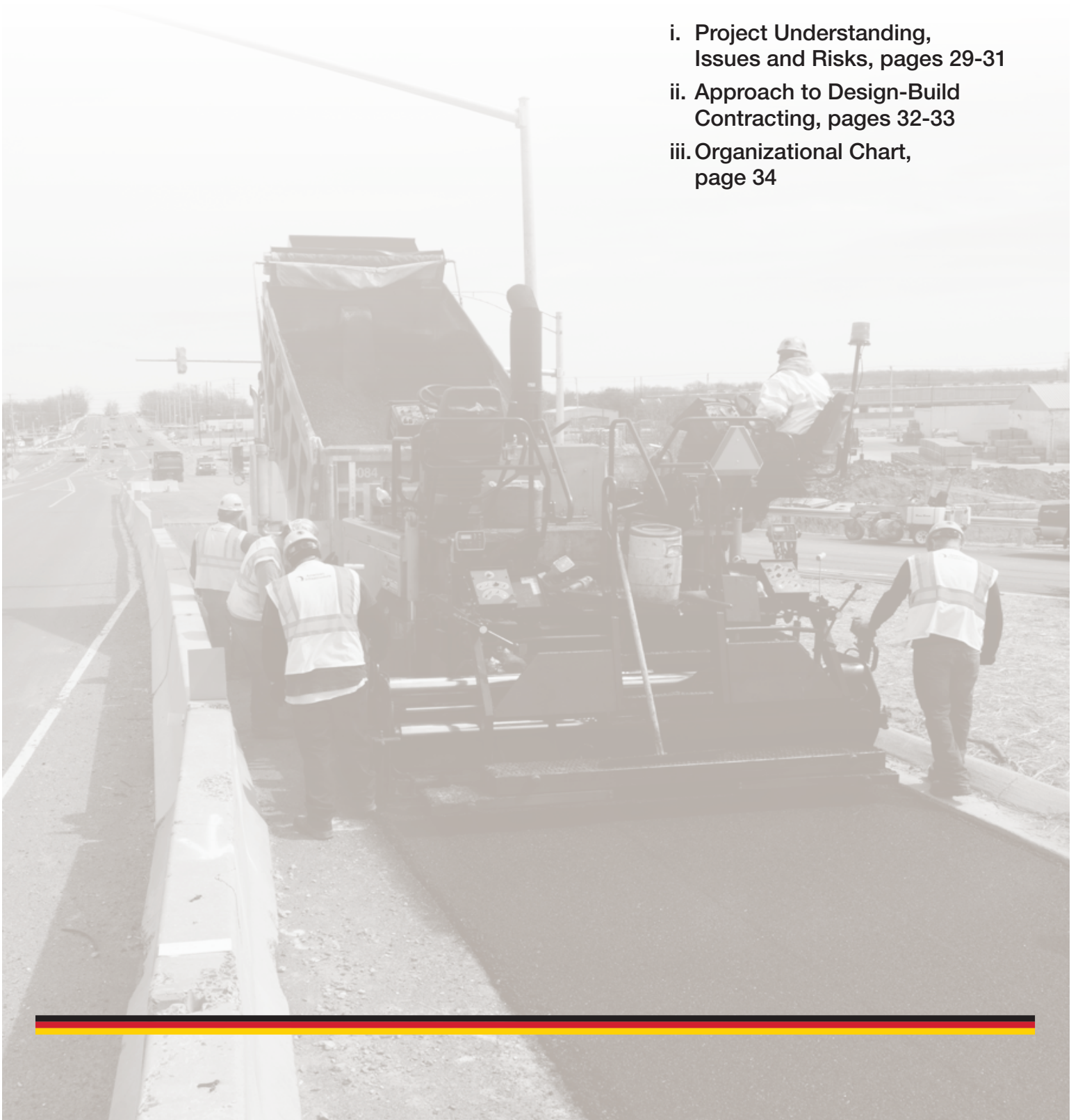
APPLICATION FOR THE US 113 PROJECT

Installation, inspection, and maintenance of erosion and sediment control measures will be provided by AI project management staff trained and certified by MDE and SHA for Erosion and Sediment Control. In addition to the required training for Key Staff, each of AI’s project management staff are certified SWPPP Preparers and Inspectors by *Stormwater USA*, an EPA recognized training and certification program. Environmental Controls Manager, Neph Eyassu, will make certain E&S perimeter controls and sediment basins are installed prior to starting construction, the E&S sequence is followed, the controls remain in place and functional throughout the duration of construction, and any deviations to the sequence are approved prior to starting the work. Specific techniques and practices AI anticipates utilizing on the US 113 PROJECT include:

- Marking out the LOD with orange construction fence and installing tree protection fence to protect existing trees that may not need to be removed and leave existing vegetative buffers intact;
- Minimizing the amount of exposed area by designing proper phasing, strictly adhering to the construction sequence, and promptly stabilizing areas upon completion;
- Utilizing clear water diversions to prevent clean water from entering the work site (parallel ditches or swales);
- Installing silt fence/super silt fence to contain washout from imported materials to build up the existing grade;
- Pumping/fluming water around the work site to install/modify culverts under the roadway;
- Dewatering in accordance with bmps (e.i. filter bags and strawbales) if high groundwater is encountered; and
- Constructing bioretention facilities/submerged gravel wetlands at the appropriate phase of construction.

C. Project Understanding and Team Organization

- i. Project Understanding, Issues and Risks, pages 29-31
- ii. Approach to Design-Build Contracting, pages 32-33
- iii. Organizational Chart, page 34



C.i. PROJECT UNDERSTANDING, ISSUES, AND RISKS

UNDERSTANDING OF PROJECT SCOPE

Overview – US 113 (Worcester Highway) is classified as a principal arterial extending from Pocomoke City, located in Worcester County, Maryland to Milford, Delaware. The US 113 corridor functions as a major artery serving commuters, commercial trucking, and summer vacationers traveling along the Delmarva Region and is designated as a Hurricane Evacuation Route. The remaining two phases of US 113 located in the south that have not been dualized and continue to operate as 2-lane facilities, which combined with the high percentage of trucks, can result in potential unsafe conditions. The Purpose and Need for the US 113 corridor was to “improve safety conditions and traffic operations” as defined in the Final Environmental Impact Statement (FEIS).

The project scope consists of the design and construction of two additional lanes along the existing alignment to create a dual divided four-lane highway with a short portion on new alignment when approaching and departing the at-grade crossing of the Maryland and Delaware (MD/DE) Railroad. Also included in the scope are the design and construction of new service roads to consolidate access points to minimize direct access to US 113 as part of the corridors Access Management Plan. The length of the PROJECT is approximately 4 miles.

Project improvements also include construction of roadway tie-ins, including a temporary cross over from the new dual highway to the existing two-lane roadway, new pavement construction and pavement rehabilitation of existing roadways and shoulders, reforestation, closed/open drainage systems, stormwater management quality and quantity facilities, roadway lighting, signing, pavement marking, and culvert extensions/replacements.

Project Objectives – The State Highway Administration’s (SHA) major project objectives are to provide a safe, cost-effective, low maintenance 4-lane median divided roadway facility; maintain mobility for all roadway users including new access controls and emergency response personnel; and to minimize impacts of environmental resources along the corridor and in particular to Forest Interior Dwelling Bird Species (FIDS).

During construction, SHA’s goals are to safely maintain existing roadway traffic operations, capacity and access to adjacent properties; provide work zone safety; conform to all environmental permits and minimize impacts; maintain and protect non-impacted existing utilities; construct the dualized roadway at the MD and DE Railroad within the time allotted; and allow for the concurrent acquisition of right-of-way and relocation of impacted utilities during construction of the PROJECT.

The AI/WM Team’s general plan to meet the project objectives is to provide comprehensive design and construction planning, with ongoing coordination and communication between SHA and project stakeholders; provide and maintain adequate materials, equipment, and work forces; and to design and construct the PROJECT in accordance with the RFP, efficiently, safely, in the spirit of environmental stewardship and partnering, and within the schedule and budget of the lump sum design-build (DB) contract arrangement.

SIGNIFICANT ISSUES AND RISKS

In consideration of the significant issues and risks facing the DB Team and SHA, the AI/WM Team reviewed the conceptual drawings/draft RFP and visited the project site to evaluate the existing conditions of US 113 along the corridor. Based on this analysis and our team members’ experience designing and constructing projects along this corridor, we have identified the following issues/risks that present the greatest potential risk to the project schedule, safety of the public during construction, and the surrounding environmental resources:

- NTP Prior to R/W Clearance
- MD/DE Railroad At-Grade Crossing
- Environmental Permitting/Impacts
- Emergency Response Access
- Property Owner Coordination and Maintenance of Access
- Maintenance of Traffic
- Concurrent Utility Relocations

A description of the impacts of these issues/risks and the AI/WM Team’s mitigation strategies to ensure these risks are successfully mitigated/managed during the PROJECT are included in Table C.1. Collaborative coordination between the AI/WM Team and SHA to align to specific risk mitigation strategies will ensure the impacts identified are avoided and the PROJECT is designed/constructed on schedule and within budget.

Table C.1 Significant Issues/Risks and Mitigation Strategies

RISK DESCRIPTION	IMPACT	AI/WM TEAM MITIGATION STRATEGIES
NTP Prior to R/W Clearance	Delays to starting or progressing construction	<ul style="list-style-type: none"> ▪ Design/develop construction phased packages for approval, proceeding from the Northern project limit towards the Southern project limit to coincide with the phased R/W clearance as defined in the Draft RFP. ▪ Coordinate with the SHA to define areas where R/W clearance has progressed to limit risks to both SHA and the DB Team. ▪ Adjust design and construction package if a particular segment is not clear for construction as anticipated.
Maryland/Delaware Railroad At-Grade Crossing	Delay to the schedule due to lack of understanding of requirements	<ul style="list-style-type: none"> ▪ The proposed dualization at the railroad crossing, removal of the existing at grade crossing, and removal of the crossing at Newark Road South will be part of a separate design package developed early so an approved and permitted package is finalized prior to construction. ▪ Coordinate during the bidding phase of the PROJECT with the railroad representative to determine the type of crossing and define proposed grades to ensure proper transitions from pavement to crossing are met.
Environmental Permitting/Impacts	Schedule delays due to changes to the approved permits and environmental impacts to existing FIDS.	<ul style="list-style-type: none"> ▪ Evaluate environmental resource permits and identify temporary and permanent impacts, Time of Year restrictions, special conditions, etc. ▪ Limit work to within or a reduction of the LOD to maintain compliance with environmental permits including the WUS/ wetland permit, SWM/E&SC approvals, and reforestation site review permit. ▪ Ensure all design package submissions, and specifically SWM/E&SC, contain and address the latest guidelines as defined by SHA and MDE. ▪ Evaluate maintaining forest canopy closures and maximize on-site reforestation. ▪ Restrict impacts to forest edges where possible. Avoid the disturbance of forest habitats during April to August, the breeding season for most FIDS. ▪ Adhere to Time of Year restrictions for the stream crossings and phase work to maximize construction duration in those areas. ▪ Stake out the approved E&SC Plans' LOD in accordance with the Contract Provision and install orange construction fence to protect resources outside of the LOD.
Emergency Response Access	Public safety during construction of the PROJECT.	<ul style="list-style-type: none"> ▪ Maintain constant communication and partner with all emergency responders, including local 911 dispatchers and law enforcement. ▪ Provide monthly progress updates utilizing a project flyer and maps that will define and identify when changes to existing access points will be eliminated and new access points are to be opened and functional. ▪ Utilize VMS/temporary signage prior to permanent sign placement. ▪ Hold specific progress meeting as it relates to emergency response at the Newark Volunteer Fire Co. since they may be the primary responder in addition to local and state law enforcement and invite/coordinate with representatives from Atlantic General Hospital. ▪ In the event of a major hurricane evacuation, assist “picking-up” MOT signage and assist with local agencies to prepare for a traffic switch.
Property Owner Coordination and Maintenance of Access	Public perception of the PROJECT and complaints from adjacent residents/businesses.	<ul style="list-style-type: none"> ▪ Coordinate a Public Outreach program with SHA that includes monthly flyers mailed directly to affected property owners ▪ Attend/prepare displays for periodic project update meetings. ▪ Utilize VMS/temporary signage to provide advanced notice to property owners when their access points change and assist with education on the use of J-Turns and Maryland ‘T’ intersections. ▪ Open new access roads as segments of the PROJECT are completed and coordinate with the U.S. Postal Service for new mailing addresses and naming of the access roads if required.

RISK DESCRIPTION	IMPACT	AI/WM TEAM MITIGATION STRATEGIES
Maintenance of Traffic	Public safety and mobility through the PROJECT during construction	<ul style="list-style-type: none"> Develop a comprehensive TMP to understand the existing traffic users, patterns and challenges, and analysis/develop a design that is sensitive to those existing traffic conditions. Construct the new dualized roadway offset and parallel to the existing two lane road for minimizing MOT impacts and construction traffic entering the travel way. Carefully design geometrics/MOT and execute traffic control at the 3 “crossover” areas, where the existing road switches from being northbound to southbound, to continually maintain 2-Lane, 2-Way traffic and minimize safety risk to motorists and workers.
Concurrent Utility Relocations	Delay to schedule that requires resequencing of work	<ul style="list-style-type: none"> Direct coordination and partnering with all affected utility companies to ensure the areas identified for their relocations are included in the PROJECT’s “limits of disturbance” and covered by the necessary permits. Investigate and suggest that a utility corridor be established within the R/W that is being acquired if areas for utilities relocations are still unknown at the time of award.

EXPERIENCE MITIGATING SIMILAR RISKS

Notice to Proceed Prior to R/W Clearance – For the Talbot County DPW on the Dutchman’s Lane Road Widening project, WM developed construction phasing and Contract Provisions to allow for the construction of a box culvert prior to all right-of-way being acquired for the full project limits.

Environmental Permitting and Impacts (including FIDS) – For the MD 30 Relocated Hampstead Bypass project, WM worked with SHA EPD, US Fish and Wildlife Service and environmental specialists to delineate Bog Turtle habitats and develop roadway horizontal/vertical geometrics for impact avoidance and minimization relative to sensitive resources, including wetlands, forest lands, streams and the Bog Turtles. On the MD 2 at Friendship Road DB project, WM developed construction phasing to install the roadway cross culverts outside of the stream restriction window and also reduced the JPA’s permitted wetland impacts for the proposed roundabout intersection through road and SWM design refinements.



Maryland and Delaware Railroad – WM’s Former MTA Chief Engineer, Edward Smith, PE, has interfaced with public and private railroads throughout the state including the MD/DE Railroad. WM designed an at-grade crossing with new corridor geometry across the MD/DE Railroad, on a segment of US 113 to the North. The design for the project was carried to 35% with all railroad coordination completed—and then successfully advertised as a Design-Build (DB) contract.

Maintenance of Traffic/Property Owner Coordination – Utilizing a dual shift approach to minimize traffic impacts to residents/businesses of Richmond, AI completed road widening of Rte. 60/Midlothian Turnpike 8 months ahead of schedule while maintaining uninterrupted access for residents and businesses.

Route 60/Midlothian Turnpike



Concurrent Utility Relocations – For the US 113 Dualization Segment from Jarvis Road to Delaware Line Phase, WM developed and incorporated a utility relocation corridor in the DB Advertisement Documents; earning a National AASHTO award for Innovation. WM similarly applied the utility relocation corridor on the Middletown Road DB Project, with an E&S Control design for an initial Project site clearing and rough grading construction stage with a particular focus on the utility corridor and allowing for concurrent relocation of aerial utilities.

C.ii. APPROACH TO DESIGN-BUILD CONTRACTING

APPROACH TO DESIGN-BUILD CONTRACTING

American Infrastructure (AI) and Wallace Montgomery (WM) have a structured approach to Design-Build (DB) project delivery which evolved from our collective experience on 17 DB projects. Our approach includes:

- Selecting teaming partners we have worked with successfully with on other similar projects.
- Committing key personnel experienced at assessing and managing the project risks.
- Continuously analyzing and mitigating risks during the proposal, design, and construction phases.
- Utilizing innovative designs to avoid and minimize impacts to environmental resources, utilities, right-of-way, and the public while maintaining the highest quality standards in design and construction.
- Involving construction staff during the proposal/design phase to incorporate construction means and methods and phasing/work sequencing during design development.
- Engaging design staff during construction to confirm design assumptions and evaluate field changes.
- Partnering with SHA and project stakeholders to achieve project objectives and coordinate effectively.

METHODOLOGY FOR INTEGRATING THE DESIGN-BUILD TEAM

AI/WM Shared Experience – AI, WM, and our subconsultants present SHA with an integrated team that has worked together collaboratively to merge our individual areas of expertise into an efficient and effective DB team. AI and WM have worked together on six DB projects and pursuits including:

- I-95 Interchange at Contee Road DB project
- Ft Meade Mapes Rd Water Main DB project
- Ft. Meade WWTP Water Main DB project
- I-95 Interchange at Temple Ave DB pursuit (active)
- MD 32 Interchange at Linden Church Rd DB RFP
- Rockenbach Access Control Point at Ft. Meade D/B RFQ

In addition, WM has provided construction engineering services for AI on numerous projects including the I95 ETLs, US 40 at Cranberry Run Bridge, York Conveyor Bridge over I95, and I695/Millford Mill Bridge projects.

Subconsultants – As the Lead Designer for the PROJECT, WM will provide design services for the main design disciplines, as indicated in our organizational chart on page 34. To meet the DBE participation goals and extend the capabilities of the AI/WM Team, the firms identified in Table C.2, all MDOT certified minority firms, will provide engineering design support services. Each of these firms have worked with WM on numerous transportation “On-Call” and site specific contracts, and all of these firms are currently providing the same services for the AI/WM Team on the I-95 Interchange at Contee Road DB project. Together, these firms will exceed the Professional Services DBE participation goal of no less than 3% percent of the total Contract price.

Table C.2 Design Team Subconsultants

Subconsultant	Yrs Exp with WM	Design Services to be Provided
Findling, Inc.* (MDOT #02-046)	12	Geotechnical subsurface field exploration and foundation design engineering services
Floura Teeter Landscape Architects, Inc.* (MDOT #01-180)	13	Landscape architecture design services
Remline Corp.* (MDOT #08-484)	6	Public relations/outreach support services
Daniel Consultants, Inc.* (MDOT #84-092)	30	Water resources (SWM/ESC) engineering and SWM As-Built construction support services
Mercado Consultants, Inc.* (MDOT #90-081)	24	Field data collection support, construction stakeout and As-Built surveying services
Edwards Utility Mapping Corp* (MDOT #09642)	5	Utility locating services such as horizontal location of utilities and air excavation test pitting

** Worked with AI and WM on the I-95 Interchange at Contee Road DB Project*

Key Staff Work History – The Key Staff presented for the PROJECT have worked together successfully on the I-95 Interchange at Contee Road DB Project. Through this project, we have developed a team approach to DB project delivery and built strong individual working relationships. We have developed working processes and standard operating procedures that ensure integration of design and construction personnel and constant collaboration with SHA. During the procurement, design, and construction of the Contee Road project, the AI/WM Team developed innovative design concepts, work flow processes, and communication protocols that enabled us to provide the low price and facilitated early completion of key project milestones.

Key Personnel from Contee Road Team proposed for US 113

- Lew Glassmire - DBPM
- Will Sigafosse - CM
- Eric Sender - DM
- Diane Durscher – H/H
- Roberto Barcena - Geotech
- Joan Floura – Landscape Architect
- Matt Allen – Traffic Eng
- Dave Borusiewicz – Structural Eng

Design and Construction Staff Integration – AI’s DBPM and CM will provide constructability reviews during every stage of design development. A formal program is utilized for construction staff and key subcontractors/suppliers to provide written reviews with comments and recommendations. DB Team meetings will address project phasing/sequencing, earthwork/hauling, MOT and E&S early in the design phase and as construction progresses. During construction, WM design staff will attend progress meetings, answer questions, and resolve field issues as they arise. AI and WM’s relationship and the use of web-based software will expedite the RFI process and advance designs.

Constructability Reviews

- Verify means and methods and design compatibility with construction sequencing.
- Confirm that MOT and ESC are integrated within the overall sequence and schedule.
- Verify conformance with SHA standards/specs and review potential utility conflicts.
- Assess easements/LODs to confirm the work that can be constructed within those limits.
- Minimize wetlands and forestland impacts and comply with environmental commitments.

ORGANIZATIONAL ROLES AND RESPONSIBILITIES

The Organizational Chart (page 34) shows the chain of command and reporting relationships in managing, designing, and building the PROJECT. It is similar to the structure used by AI/WM on the Contee Rd. project.

Project Management and Administration – The DBPM will be responsible for managing the design and construction, contract administration, quality management, and coordination with third party stakeholders. The Principal in Charge provides executive oversight to promptly resolve any challenges that may arise.

Design Management – Project Design Manager will report to the DBPM and coordinate with the CM to develop an efficient and constructible design. He will work closely with the Design Discipline Leads and the Design QM to ensure schedule is maintained and in compliance with all specifications.

Construction Management – CM will report to the DBPM and communicate directly with the DM and PR Manager to provide construction progress updates and verify conformance with the plans and specs. Project Controls/ Scheduler will manage submittals/RFIs, schedule, and all documentation.

Quality Control – The QC Manager and QC inspectors will report to the CM to ensure that our Construction QC program is functioning and construction is compliant with the final design and specs. The QC Manager will be review work plans prior to the start of construction, and will oversee quality inspections of all operations.

Safety – The Safety Manager will be responsible for the overall site safety and will take part in operation planning to proactively identify and manage the safety risks presented. He will work with our Construction Team for AI and subcontractors to foster AI’s approach to a behavioral-based safety program where everyone is responsible for the safe construction of the PROJECT.

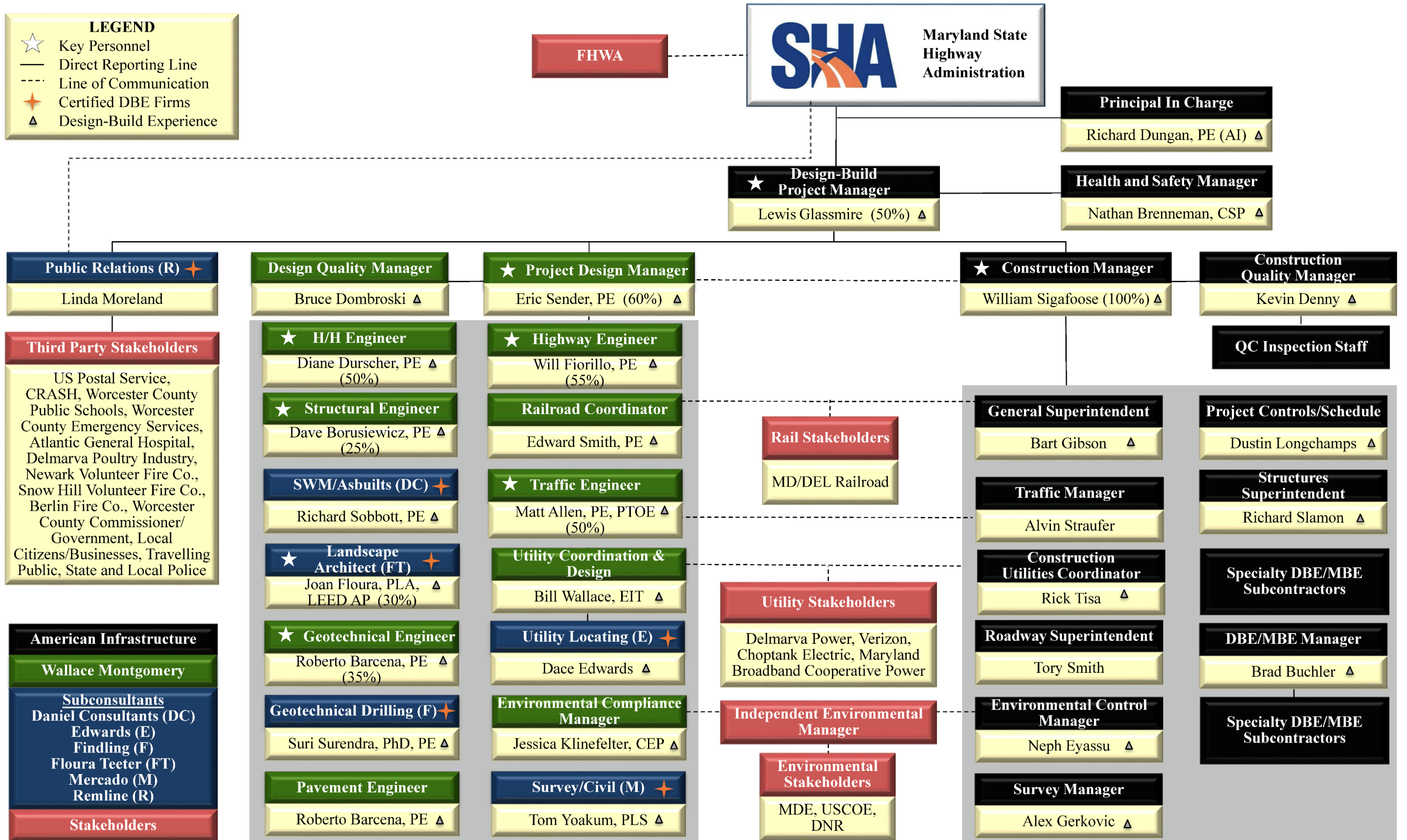
Environmental Compliance – The Environmental Compliance and Environmental Controls Managers will ensure compliance with all environmental commitments and will work collaboratively with SHA’s Independent Environmental Manager throughout the project to minimize the environmental impacts of the PROJECT.

Interface with Third Parties – The PR Manager will be supported by our DBPM, DM, and CM in her outreach efforts to allow the public to view plans and discuss concerns throughout the PROJECT.

C.iii. ORGANIZATIONAL CHART

LEGEND

- ☆ Key Personnel
- Direct Reporting Line
- - - - Line of Communication
- ★ Certified DBE Firms
- △ Design-Build Experience





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