



General Construction | Heavy Civil | Geotechnical

Original



TECHNICAL PROPOSAL

MD 97 – South of Brookeville to North of Brookeville

Montgomery County, MD

Date	June 3, 2015
Solicitation #	MO7465171
Submitted by	Wagman Heavy Civil 3290 N. Susquehanna Trail York, PA 17406-9754
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**Maryland State Highway Administration
Construction Management at Risk (CMAR)
Contract No. MO7465171**

MD 97 – South of Brookeville to North of Brookeville, Montgomery County, MD

**Technical Proposal
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Section B

PM Team/Capability



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Section B Project Management Team/Capability of the Proposer

The Project Management Team for the MD 97 project consists of Wagman employees and key subcontractors **Chesapeake Environmental Management, Inc. (Chesapeake)**, **Travesky & Associates, Ltd. (Travesky)**, and **iCivil Inc., (iCivil)**. Wagman will serve as the Construction Manager and the legal entity contracting with Maryland State Highway Administration. Chesapeake, a WBE firm, will provide environmental services, Travesky will provide public outreach and community involvement, and iCivil will provide scheduling services. Wagman has constructed roadway and transportation projects in Maryland for more than 40 years, and has more than 20 years of experience as a Construction Manager (CM) at Risk.

Wagman understands the CM at Risk process. We have experienced staff that will provide resources and technical assistance as needed throughout the CM at Risk process. Our proposed **CM at Risk Project Manager** Anthony Bednarik, DBIA will lead our project team. Anthony has more than 27 years of construction experience, which includes 17 years of experience with alternative delivery methods such as CM at Risk, Design-Build, Cost Plus Time (A+B) and Public/Private Partnerships. Our team will collaborate with SHA and the Engineering firm selected by SHA. Anthony will work closely with our proposed **Cost Estimator** Rob Shunk, PE. Rob has more than 27 years of experience as an estimator, and has worked on CM at Risk and Design-Build projects as an estimator and a design coordinator. Anthony and Rob have worked with our proposed **Construction Manager** Steve Wood over the past ten years.

Wagman CM at Risk Projects	
Project Name	Contract Amount
Homewood at Willow Ponds	\$11,295,000
Historic Fairmount Association	\$4,100,000
Historic Building Revitalization	\$8,400,000
Sycamore Square Apartments	\$26,600,000
Dickinson College Center	\$12,002,559
Bridgeway at Luther Crest	\$10,470,000
StoneRidge Retirement Living	\$15,477,660
Lutheran Social Services	\$16,182,199
Presbyterian Senior Living	\$23,640,000
Diakon Lutheran Ministries	\$9,800,000
Homewood at Spring House	\$10,723,000
Logos Academy	\$5,700,000

Our Key Staff have extensive construction experience and are equipped to achieve the project goals. Anthony, Rob and Steve worked on the Intercounty Connector (ICC) project. The ICC bypassed the Towns of Olney, Gaithersburg, Rockville, Norbeck and Sandy Spring and directed traffic away from these communities with a six-lane roadway. The ICC was larger in scale, but contained many elements similar to the MD 97 Brookeville Bypass. Wagman’s Key staff was instrumental in the ICC’s project success from design to construction, and reduced environmental impacts during design and construction. Wagman obtained incentives specifically designed to minimize impacts.

Wagman has earned national recognition for involvement in some of the largest, most complex and environmentally sensitive projects in Maryland over the past decade: The Intercounty Connector (ICC) – Contracts A & B, Woodrow Wilson Bridge and Section 100 (I-95/I-695 Interchange). Wagman was responsible for over \$1.5 billion in design and construction, and each contract was completed on time and under budget. Each project had unique traffic opportunities and were built to minimize impacts to the traveling public. On Woodrow Wilson Bridge and Section 100 we created major traffic switches which minimized impacts to the traveling public. The ICC crossed many neighborhoods and

communities, and through a proactive and detailed Traffic Management Plan, we built the project while minimizing impacts and inconvenience to the traveling public, local neighbors and business.

Wagman believes in partnering and working as a team. Anthony, Rob and Steve were key contributors on ICC Contract B, creating a cohesive team with three contractors, multiple engineering firms, design, QA/QC, numerous subcontractors and SHA. From Design Development through construction, our key personnel facilitated collaborative partnerships with all members of the project team and stakeholders. A great example of this collaboration occurred when a large quantity of bamboo was uncovered within the footprint of the ICC. Wagman contacted the National Zoo and discussed using the bamboo for the endangered pandas housed at the zoo. As another example, our key personnel on the Homewood CM at Risk Project were involved in a collaborative effort with the owner, engineer and third party agencies to redesign the existing dam and pond to save the pond, realign the stream and bring the dam up to the required code.

Design Development is important to any project, in particular, CM at Risk projects. Collaboration between the designer and contractor ensures the Owner receives an efficient design and an aggressive construction schedule. Anthony will manage Wagman's Design Development process. We have assigned Design Coordinators for the project's major design disciplines to assist during the Design Development phase.

Project Role	Name	Qualifications
Structures Design Coord.	Alex Brown	10 years of experience in the construction industry, project management/estimating, served as an Engineer on ICC-A.
Roadway Design Coord.	Rob Shunk, PE	27 years of experience as an estimator, coordinator and constructor, responsible for estimating, and design coordination for roadway elements, similar role on ICC-A, ICC-B and Homewood.
Geotechnical Design Coord.	Ed Laczynski	17 years of experience as a designer, estimator and constructor of various geotechnical services including pile foundations, caissons, micro-piles, tie-downs, tie backs, underpinning & retaining walls.
Utility Coord.	Jason Hershey	15 years of experience as an estimator and utility coordinator, currently Utility Coordinator on two Design-Build projects.
Environmental Compliance	Josh Nelson (Chesapeake)	Extensive experience with Environmental Compliance in Design Development.
Scheduler	Stephanie Pratt (iCivil Inc.)	16 years of experience in construction management and scheduling; working with FHWA and SHA

During Design Development, our construction team will assist with constructability reviews and project phasing, environmental avoidance and minimization, access and risk mitigation. Steve Wood, one of our most experienced Construction Managers, will lead our construction team. He will be supported by the knowledgeable and experienced construction staff described below.

Project Role	Name	Qualifications
Structures Superintendent	Andrew Michenzi	14 years of experience, successfully worked on MD 4 in PG County, presently Bridge Superintendent on Fishing Creek in Chesapeake, MD, previously Engineer/Superintendent on ICC-B.



Project Role	Name	Qualifications
Roadway Superintendent	Mark Bixler	25 years of experience, Roadway Superintendent on the I-95 & I-695 Interchange, Roadway Superintendent on ICC-B, managed roadway operations on Homewood at Willow Ponds Project.
Geotechnical Superintendent	Shawn Painter	27 years of experience in geotechnical construction including pile driving, micro-piles, tie-backs and tie-downs, successfully installed support of excavation, underpinning and retaining walls.
Utility Coordinator	Jason Hershey	15 years of experience as an estimator and utility coordinator, currently Utility Coordinator on two Design-Build projects.
Environmental Compliance	Josh Nelson (Chesapeake)	Extensive experience with Environmental Compliance in Design and Construction
Scheduler	Stephanie Pratt (iCivil Inc.)	16 years of experience in construction management and scheduling; working with FHWA and SHA

As announced at the April 2015 Industry meeting, SHA retained JMT as their Lead Designer. Wagman has a long standing relationship on Bid-Build projects with JMT, and we have worked together on several Design-Build projects. The project list below illustrates the well-established working relationship between Wagman and JMT over the past 15 years.

- WW Bridge Contract MA1
- WW Bridge Contract MA2-3
- WW Bridge Contract MA4
- WW Bridge Contract MB1-2 (Wall Redesign)
- Section 100 (I-95 & I-695 Interchange), MD
- Delaware Water Gap Bridge Replacement Design-Build, PA
- Bridge Rehabilitation Design-Build (22 Bridges), PA
- Route 61 Narrows Bridge Replacement Design-Build, VA
- Odd Fellows Road Extension/Interchange Design-Build, VA

FORM A-1 – Key Staff Information

Name of Proposer: **Wagman Heavy Civil, Inc.**

Position	Name	Years of Experience ¹	Education/ Registrations	Name of Employer
Project Manager	Anthony W. Bednarik	15/27	BS/Civil Engineering DBIA Certified Professional	Wagman Heavy Civil, Inc.
Construction Manager	Steven P. Wood	15/33	MD E&S Certification NCCCO Certified Crane Operator OSHA 10-Hr/30-Hr Confined Space Exc. Competent Person	Wagman Heavy Civil, Inc.
Cost Estimator	Rob Shunk, PE	8/27	BS/Civil Engineering Registered PE/PA Registered PE/SC	Wagman Heavy Civil, Inc.

¹ Present Firm/Total

Anthony W. Bednarik - Project Manager

Years with Wagman Heavy Civil, Inc.: 15 / Years with Other Firms: 12

Commitment and Time Availability for this project: Preconstruction 35%, Construction 35%

As Vice President of Design-Build/Major Pursuits, Anthony is responsible for the estimating staff and Design-Build projects from pursuit to final completion. He is assigned to major Design-Build and Major Pursuit projects such as MD 97. Over the past 15 years Anthony has worked as a Design-Build Project Manager, Design-Build Coordinator, Project Manager and Estimator.

Design-Build Project Management Experience

As Design-Build Project Manager (DBPM), Anthony coordinates the Design-Build effort, and assists the Construction Manager during the construction phase.

- **Intercounty Connector Contract A&B, Montgomery County, MD:** As Assistant DBPM on both contracts, Anthony was responsible for design coordination which included everything from environmental to roadway and structures. He worked with designers and field personnel to assure that the design met all environmental commitments, design requirements, and constructability constraints. Anthony was involved from pursuit through Design Development and start of construction.
- **Homewood at Willow Ponds, Frederick, MD:** A CM at Risk project, Wagman was responsible for infrastructure, construction including roadway, utility relocation, stormwater management, environmental compliance, and overall development for retirement community expansion.
- **Youghiogheny Reservoir Bridge and Route 40 Widening, PA:** Wagman prepared a successful alternate bridge design for this 1,500 ft. long bridge across the Youghiogheny Reservoir and minimized environmental and recreational impact on the lake. During the redesign of the structure, Anthony served as the DBPM responsible for all design coordination and field activities, including interaction with the Owner and permitting agencies such as the U.S. Army Corps of Engineers.
- **Mill Creek Bridge Replacement and Route 15 Widening, PA:** As DBPM, Anthony was responsible for supervision of all construction activities and coordination with Designer, which occurred simultaneously to meet an aggressive schedule in an area with a limited construction season. The project also included approach highway design and construction, a Contractor designed traffic maintenance scheme, and coordination with the U.S.A.C.O.E lake management operations.

Anthony also served in a management role for the following projects:

- Salisbury Bypass Contract A and B, MD
- Route 115 Widening in Berlin, MD
- Route 54 Evacuation Route Upgrade, DE
- Route 1 at Ft Belvoir, VA
- I-78 in Lenhartsville, PA
- Delaware Water Gap (Raymondskill Bridge), PA
- Danville Cut and Cover Tunnel, PA

Education:

BS, Civil Engineering, Bucknell University 1987

Registrations/Certifications:

DBIA Certified Professional
ARTBA Project Management Academy, ASCE

Experience Relevant to Project:

- Design-Build / CMAR
- Environmental Compliance
- QA/QC
- Construction Management
- Estimating / Scheduling
- Design Coordination
- Env. Agency Coordination
- Stakeholder Coordination
- Utility Coordination
- Public Outreach Coordination
- Partnering
- Stormwater Management

Steven P. Wood - Construction Manager

Years with Wagman Heavy Civil, Inc.: 15 / Years with Other Firms: 18

Commitment and Time Availability for this project: Preconstruction 15%, Construction 100%

Steve is our General Superintendent for all projects in Maryland. He oversees four projects totaling \$100 million and 140 employees. In addition, Steve assists Estimating and Engineering with challenging work activities such as access, erection, and demolition plans. Steve will be assigned to the MD 97 project Full-time.

Intercounty Connector (ICC) Contract B, Montgomery County, MD: This was a Design-Build project that involved seven miles of new controlled access, six-lane, tolled roadway and two interchanges. As Project Superintendent, Steve was responsible for oversight of construction efforts to ensure that the work was performed in accordance with design, budget and schedule; and oversight of two shifts and approximately 200 employees. Steve conducted constructability reviews, created work plans that incorporated design, safety, environmental compliance and production, then oversaw the fired operations

Woodrow Wilson Bridge Contracts MA-1, MA2-3, MA-4 MB1-2 and MB-4, Oxon Hill, MD: The five contracts involved construction of the new National Harbor Interchange and reconstruction of the I-295 interchange, portions of the MD 210 interchange, and reconstruction along the I-95/I-495 Maryland corridor to the new Woodrow Wilson Bridge. As Project Superintendent, Steve oversaw total construction efforts to ensure they met design, budget and schedule requirements; supervised and coordinated various contractors to ensure their contracts were complied with; and oversaw two shifts, 25 supervisors and approximately 120 employees. Throughout the project, Steve developed and maintained relations with the Maryland State Highway Administration, adjacent contractors and local third party stakeholders. Steve developed and maintained relations with the SHA, adjacent contractors and local third party stakeholders. Due to Steve's efforts, Wagman received a partnering award.

Delaware Route 113 Bridge and Road project, DE: As Assistant Superintendent, Steve assisted in coordinating contractors and supervising crafts on the Delaware Route 113 Bridge and Road project. His responsibilities also included observing and interfacing with contractors and trades to monitor work performance, progress and productivity of crafts; and coordinating plans and specifications with the project engineer.

In addition, Steve served in a management role for the following projects:

- MD 4 Over MD 223, MD
- I-95 Latex Overlay, MD
- Homewood at Willow Ponds, MD
- MD 404 Dualization, MD
- US 301 at MD 304, MD

Registrations/Certifications:

NCCCO Certified Crane Operator
OSHA 10-Hour and 30-Hour
OSHA Preventing Runovers &
Backovers
Confined Space
Excavation Competent Person

Experience Relevant to Project:

- Design-Build / CMAR
- Environmental Compliance
- QA/QC
- Construction Management
- Scheduling
- Constructability Reviews
- Stakeholder Coordination
- Utility Coordination
- Partnering
- Phasing/MOT
- Safety
- Stormwater Management

T. Rob Shunk, PE - Cost Estimator

Years with Wagman Heavy Civil, Inc.: 8 / Years with Other Firms: 19

Commitment and Time Availability for this project: Preconstruction 35%, Construction 35%

Intercounty Connector Contract A & B, Montgomery County, MD: As Project Estimator, Rob's prebid duties included assistance to develop a Concept Earth Disturbance Area (EDA) plan. The plan outlined how the contractor proposed to phase construction from an erosion and sediment control perspective to maximize protection of downstream resources and property from construction related sedimentation. The Concept EDA plan identified elements critical to the success of the plan.

Rob developed a narrative description of the contractor's proposed construction management plan, which included the overall construction management; proposed construction staging and sequencing plan indicating timing and sequencing of major activities for the project; plans to deal with unusual traffic events; and develop a draft of the Transportation Management Plan (MOT, Haul Routes and Access during Construction). Rob also assisted with developing a Public Access Plan for maintaining public access through the project site during construction including coordination with State, County, local agencies and the communities.

During the project's post-bid phase, Rob served as Design-Build Coordinator – Roadway/Drainage/Erosion Control. He was responsible for review of Engineering Design submittals for completeness, constructability and cost-effectiveness; ensuring environmental compliance of design; ensuring compliance with project specifications; coordination with other Design-Build Coordinators (Structures/Utilities/Landscaping/etc.); and ensuring the design team remained on schedule and budget.

Homewood at Willow Ponds, Frederick, MD: The project developed an existing working farm into a senior living community while maintaining the tranquil and scenic views of the Frederick countryside. The project included approximately 0.8 miles of new paved two-lane roadway; all new utilities including water, sewer, electric, phone and gas lines; safety improvements to the intersection with US 15; new storm water management facilities; sand filters; micro-bioretenion facilities; curb and sidewalk; and multi-use paths. The owner requested that the existing upper pond remain as a focal point and add to the historic character of the property. After consulting with an engineering firm, it was determined that the existing earthen dam was unsatisfactory. Wagman designed and constructed a new sheet-pile/earthen dam, reconstructed the outfall stream and replaced an existing cross pipe under Willow Road with a pair of parallel box culverts, relocating existing utilities and maintaining access to the traveling public.

Annually, Rob generates cost estimates exceeding \$2 billion for Wagman.

Education:

BS, Civil Engineering, The Pennsylvania State University, 1988

Registrations/Certifications:

Registered PE in PA
Registered PE in SC

Experience Relevant to Project:

- Design-Build / CMAR
- Environmental Compliance
- QA/QC
- Construction Management
- Estimating / Scheduling
- Design Coordination
- Env. Agency Coordination
- Stakeholder Coordination
- Utility Coordination
- Public Outreach Coordination
- Phasing/MOT
- Safety
- Partnering
- Stormwater Management

Third Party Stakeholders

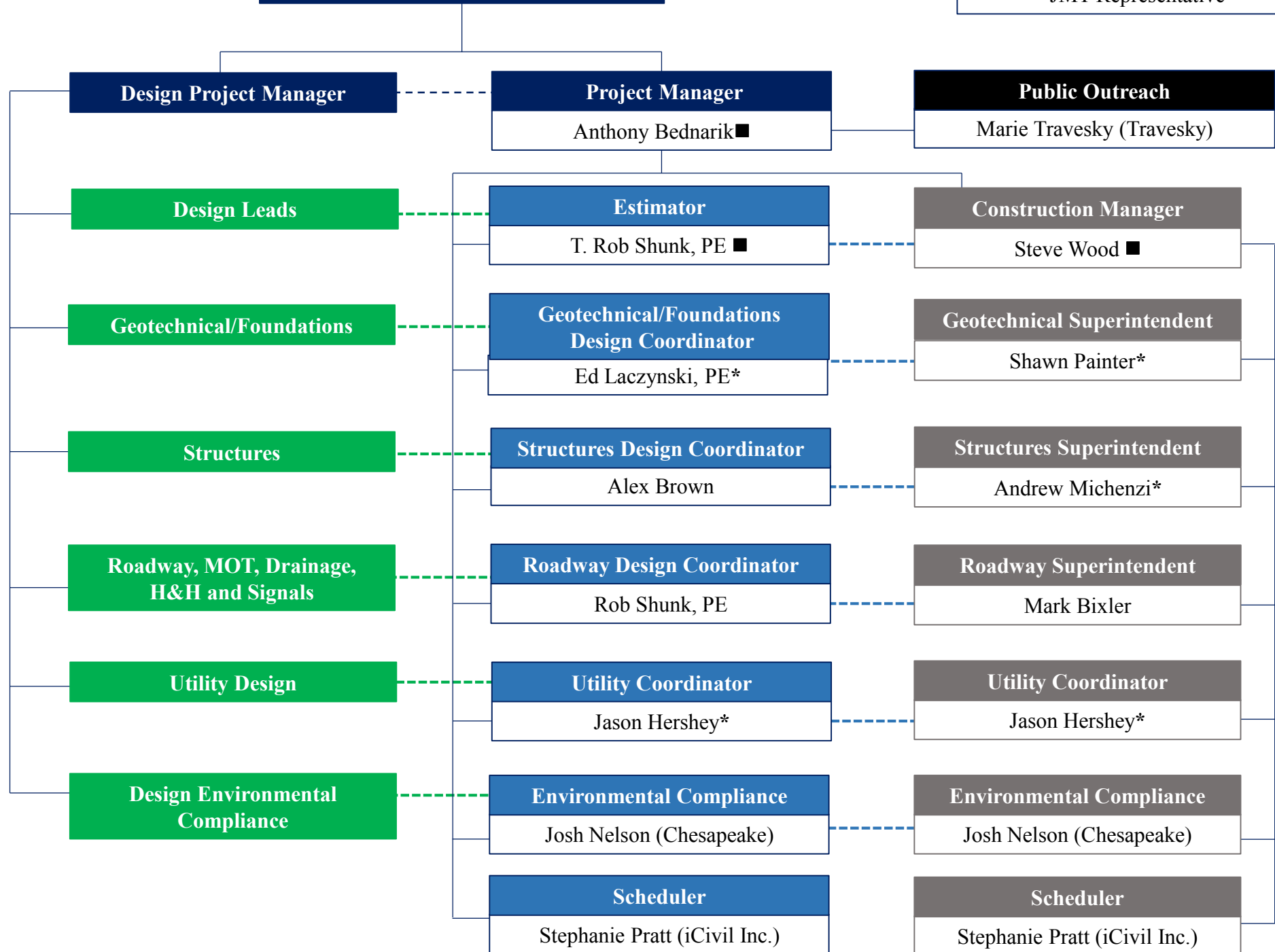
FHWA
 Maryland National Capital Park & Planning
 Town of Brookeville
 Longwood Community Center
 Montgomery County
 Power
 Water / Sewer
 Fiber Optics
 Communications
 Dept. of Environment, MDE
 Dept. of Natural Resources
 Newlin/Downs Mill Complex
 Brookeville Historic District
 Maryland Historical Society
 ACOE
 US Fish & Wildlife
 US EPA
 Traveling Public
 Local Business
 Local Property Owners

Executive Oversight Committee

Greg Andricos, President/COO
 Kevin Snoke, CM at Risk Resource
 Cory Gaye, Corporate Safety Director

JMT Representative

Maryland State Highway Administration



Legend

- Design
- Design Development/Preconstruction
- Construction
- Public Outreach
- Key Personnel
- * Value Added Resume Included in Appendix

FORM A-2 PAST PROJECT DESCRIPTION

Name of Proposer: Wagman Heavy Civil, Inc.

Name of Construction Firm: Wagman Heavy Civil, Inc.
Project Role: <u>Joint Venture Partner, Design and Construction</u> Contractor: <input checked="" type="checkbox"/> Other (Describe): _____
Years of Experience: Roads/Streets: <u>113</u> Bridges/Structures: <u>113</u> Environmental: <u>113</u>
Project Name and Location: <u>Intercounty Connector Contract A, Montgomery County, MD</u>
Project Key Staff (as applicable to project)
Project Manager: Anthony Bednarik – Assistant DBPM
Cost Estimator: T. Rob Shunk, PE – Estimator/Roadway-Design/Build Coordinator
Description and Specific Nature of Work for which Firm was responsible and how it is relevant to this contract:
<p>Contract A of the Intercounty Connector was a large design-build project in Montgomery County Maryland. (\$464 million dollar design-build best value). Wagman was an equity member of a fully integrated construction joint venture and financially responsible for the project. The project was 8.5 miles long with 18 structures, 350,000 SF of noise walls, utility relocations, ROW acquisition, environmental permitting and monitoring, drainage, over 3 million cubic yards of excavation, and construction of 4 interchanges. On the western end of the project we had 1.5 miles of existing I-370 to widen and reconstruct. After the bridges were widened, Wagman placed a latex concrete overlay, since we are the largest latex modified concrete supplier in the Mid-Atlantic region. Major traffic control and traffic switches were required on the western end to minimize impacts to the travelling public. The project included extensive ITS and signalization within the project limits and beyond the project limits to inform the motorists and maintain traffic flow. Many innovative ideas were utilized to reduce cost and minimize impacts to the environment, such as open-bottom culverts, underground storm-water management structures to reduce thermal impact to adjacent streams, redesign of the interchange with existing I-370 and the MAR access road to eliminate structures and reduce the quantity of retaining walls. We utilized the ATC Process to redesign a three level interchange into a 2 level trumpet interchange reducing bid cost, and reducing long term maintenance costs. A Complete Traffic Management Plan was developed for the project that included all phases of construction. Context Sensitive Design was incorporated to ensure compliance with the aesthetic requirements and the projects commitment check list. Anthony Bednarik was assigned to the project as an assistant DBPM, and was also Wagman’s executive responsible for all of Wagman’s interests in the project. Other Wagman personnel held key positions such as General Roadway Superintendent, General Structure’s Superintendent, Pile Driving Manager, Design Coordination Assistant Manager, E&S Superintendent, and various construction field engineers and field employees. The project utilized</p>





three dimensional modeling to assist with survey and earth moving operations. We were able to adjust the vertical and horizontal alignment to eliminate excess excavated material.

Similar Scope Activities to MD 97 Brookeville Bypass

Design-Build	Utility Cord./Relocation	Box culverts
Roadway	Public Involvement/Rel.	Bridge over stream
Survey/Right-of-Way	ITS	Stream Flow management
Structures and Bridges	Context Sensitive Design	Stream relocation
Environmental Sensitivity	QA/QC	Bypass historic towns
Geotechnical Elements	Third-Party Coordination	Retaining walls
Hydrology & Hydraulics	Overall Project Mgmt.	Noise Walls
TMP/MOT	Fast track schedule	Sensitive watershed
Hiker biker Trail	Reforestation	Risk Mitigation

Description of Specific Nature of Work for which Key Staff proposed for this contract was responsible for on project and how it is relevant to this contract:

- Anthony Bednarik was responsible for design coordination from environmental to roadway and structures. He worked with designers and field personnel to assure that the design met all environmental commitments, design requirements, and constructability constraints. Anthony was involved from pursuit through Design Development and start of construction.
- Rob Shunk was responsible for estimating and Design-Build coordination for roadway and drainage elements. During Design Development, Rob estimated multiple options and design solutions to evaluate safety, cost, schedule, and environmental impact.

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

2012 National Design-Build Award - DBIA	2011 Northeast's Region Best Overall Project – ENR
2012 Exemplary Ecosystem Initiatives Award - FHWA	2012 Alliant Build America Award - ACG
2012 America's Transportation Awards Top 10 Finalist - ENR	2011 President's Award for Highways - AASHTO
	2010 Intercounty Safety Award - EFCO

Name of Client (Owner/Agency, Contractor, etc.):

Maryland Transportation Authority

Address: 2310 Broening Highway, Baltimore, MD 21224

Contact Name: Robert Farley (Owner Representative)

Telephone: 443-615-0224

Owner's Project or Contract No.: AT3765960 **Fax No.:** 410-537-7802

Contract Value (US \$): \$463,885,499 **Final Value (US \$):** \$484,104,216 increase due to incentive and scope modifications

Percent of Total Work Performed by Company: 55%

Commencement Date: Sept. 2007 **Original Completion Date As Defined in IFB:** August 2010

Actual Completion Date: December 2010 per Owner granted Change Orders

Any disputes taken to arbitration or litigation? Yes No

FORM A-2 PAST PROJECT DESCRIPTION

Name of Proposer: Wagman Heavy Civil, Inc.

Name of Construction Firm: Wagman Heavy Civil, Inc.
Project Role: Joint Venture Partner, Design and Construction Contractor: <input checked="" type="checkbox"/> Other (Describe): _____
Years of Experience: Roads/Streets: <u>113</u> Bridges/Structures: <u>113</u> Environmental: <u>113</u>
Project Name and Location: Intercounty Connector Contract B, Montgomery County and Prince George's County, MD
Project Key Staff (as applicable to project)
Project Manager: Anthony Bednarik – Assistant DBPM
Construction Manager: Steve Wood – Construction Manager, Structures
Cost Estimator: T. Rob Shunk, PE – Estimator/Roadway-Design/Build Coordinator
Description and Specific Nature of Work for which Firm was responsible and how it is relevant to this contract:
<p>ICC B was a \$570 million highway Design-Build, best value project extending from MD 97 to MD 29. Wagman was an equity member of a fully integrated construction joint venture, and financially responsible for the project. Contract B involved 7.5 miles of new controlled access, six-lane, tolled roadway with two interchanges; MD 650 New Hampshire Avenue and MD 182 Layhill Road. The work included 2.5 million yards of excavation, drainage, temporary detours for cross roads, utility relocations, 13 bridges, 300,000 SF of noisewalls and retaining walls. Stormwater management facilities were created, and reconstructed to handle the new stormwater run-off and updated regulations. The project included ITS to inform the public and open road tolling to collect tolls that included hardwired and cellular connections. The ITS and ETC system had to be integrated with the existing system maintained by the State. Quality Control was the responsibility of the Design-Builder and we managed the QC Program. The Intercounty Connector project was an extremely environmentally and community sensitive project and extensive measures were planned by the Design-Build team to minimize the environmental impact of this project. Many Wagman Personnel excelled and were placed in position of authority, such as Structure Construction Manager, General Bridge Superintendent, Piling Manager, Beam Erection Manager, field engineers, carpenters, operators, laborers, E&S workers and MOT personnel. Andrew Michenzi who will be the Structure Superintendent on MD 97 was a structure superintendent/engineer. We utilized many Alternate Technical Concepts and other innovations to reduce cost, improve schedule or improve environmental performance, such as caissons in lieu of spread footings to minimize permanent impacts to wetlands and flood plains, underground stormwater management facilities to minimize the thermal impact to fresh water streams after a rain event, alternate pier locations to minimize impacts to wetlands, streams and underground utilities.</p>





Our survey team utilized three dimensional modeling adjusting the vertical and horizontal alignment and matched existing elements to eliminate excess material, while increasing production.

Similar Scope Activities to MD 97 Brookeville Bypass

Design-Build	Utility Cord./Relocation	Box culverts
Roadway	Public Involvement/Rel.	Bridge over stream
Survey/Right-of-Way	ITS	Stream Flow management
Structures and Bridges	Context Sensitive Design	Stream relocation
Environmental Sensitivity	QA/QC	Bypass historic towns
Geotechnical Elements	Round about	Retaining/Noise walls
Hydrology & Hydraulics	Third-Party Coordination	Reforestation
TMP/MOT	Overall Project Mgmt.	Sensitive watershed
Hiker biker Trail	Fast track schedule	Risk Mitigation

Description of Specific Nature of Work for which Key Staff proposed for this contract was responsible for on project and how it is relevant to this contract:

- Anthony Bednarik was responsible for design coordination from environmental to roadway and structures. He worked with designers and field personnel to assure that the design met all environmental commitments, design requirements, and constructability constraints. Anthony was involved from pursuit through Design Development and start of construction.
- Steve Wood was responsible for all structure field operations that included over 500,000 SF of bridge construction; 300,000 SF of noise wall construction; and approximately 30,000 SF of retaining walls.
- Rob Shunk was responsible for estimating and Design-Build coordination for roadway and drainage elements. During Design Development, Rob estimated multiple options and design solutions to evaluate safety, cost, schedule, and environmental impact.

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

2013 Award of Excellence, Partnering Silver Award - MDQI	2012 Alliance Award - Northern Virginia Transportation Alliance
2012 National Design-Build Award - DBIA	2012 Globe Award for Environmental Excellence - ARTBA
2012 Exemplary Ecosystem Initiatives Award - FHWA	2012 Best Transportation Project – Engineering News Record (ENR)

Name of Client (Owner/Agency, Contractor, etc.):

Maryland Transportation Authority

Address: 2310 Broening Highway, Baltimore, MD 21224

Contact Name: Robert Farley (Owner Representative) **Telephone:** 443-615-0224

Owner’s Project or Contract No.: AT3765B60 **Fax No.:** 410-537-7802

Contract Value (US \$): \$545,092,000 **Final Value (US \$):** \$560,753,901 increase due to incentive and scope modifications

Percent of Total Work Performed by Company: 57%


Commencement Date: Nov. 2008 **Original Completion Date As Defined in IFB:** Nov. 2011

Actual Completion Date: November 2011

Any disputes taken to arbitration or litigation? Yes No X

FORM A-2 PAST PROJECT DESCRIPTION

Name of Proposer: Wagman Heavy Civil, Inc.

Name of Construction Firm: Wagman Heavy Civil, Inc.		
Project Role: Construction Manager at Risk _____ Contractor: <input checked="" type="checkbox"/> Other (Describe): _____		
Years of Experience: Roads/Streets: <u>113</u> Bridges/Structures: <u>113</u> Environmental: <u>113</u>		
Project Name and Location: Homewood at Willow Ponds Campus, Frederick, MD		
Project Key Staff (as applicable to project)		
Project Manager: Anthony Bednarik – Site Development & Infrastructure		
Construction Manager: Steve Wood – Site Development & Infrastructure		
Cost Estimator: T. Rob Shunk, PE – Site Development & Infrastructure		
Description and Specific Nature of Work for which Firm was responsible and how it is relevant to this contract:		
<p>Wagman was selected as the Construction Manager at Risk for this land development project. Wagman was responsible for all development which included new roadways, stormwater management (SWM), intersection reconstruction, roadway reconstruction and building construction. We worked with the owners architect and engineers to finalize design obtain permits, develop value engineering options and negotiate to proceed with construction to a Guaranteed Maximum Price. Costs associated with self-performed work would have to be justified, or we would have to compete with the open market. Wagman has completed Phase 1 and 2 and have self-performed over \$25 million of this \$50 million dollar project. We are in now negotiating with the owner for Phase 3 and 4. This was a greenfield project in which we constructed over 1.5 miles of new roadway, constructed a permanent SWM pond, reconstructed an existing dam to new regulations, relocated an existing stream and built a new box culvert for the stream. The existing stream flow had to be maintained during dam reconstruction and box culvert installation.</p>		
Similar Scope Activities to MD 97 Brookeville Bypass		
CM at Risk	Utility Cord./Relocation	Box culverts
Design-Build	Public Involvement/Rel.	Bridge over stream
Roadway	ITS	Stream Flow management
Survey/Right-of-Way	Context Sensitive	Stream relocation
Structures and Bridges	Design/Solutions	Bypass historic towns
Environmental Sensitivity	QA/QC	Retaining walls
Geotechnical Elements	Cul-de-sac	Noise Walls
Hydrology & Hydraulics	Third-Party Coordination	Sensitive watershed
TMP/MOT	Overall Project Mgmt.	Risk Mitigation
Hiker-Biker Trail	Reforestation	Fast track schedule



Description of Specific Nature of Work for which Key Staff proposed for this contract was responsible for on project and how it is relevant to this contract:	
<ul style="list-style-type: none"> • Anthony Bednarik was the Project Manager for Phase 1, 1B and 1C. Anthony helped through Design Development, price negotiations and project execution. His responsibilities included estimating of multiple phases, negotiations with the owner, discussions of risk and contingency, developing a complete scope of work, working with third party agencies for approvals. • Rob Shunk was the lead estimator working with Anthony to develop multiple estimates for various phase of construction. Rob assisted with the final budget and quantification of contingency and mitigation of risk. Rob estimated the earthmoving operations, utility relocations, Stormwater management, Maintenance of Traffic, Roadway widening, intersection reconstruction, dam reconstruction and box culvert installation. Rob continued to price additional phases (Phase 2 & 3) and through negotiations, Wagman continued to build the additional phases. • Steve Wood was the General Superintendent responsible for all field work associated with the site development of this project. Steve and his crews constructed the entire infrastructure which included over a mile of new roads, a mile of road widening, a quarter mile of road reconstruction, box culvert installation, Erosion and Sedimentation controls, dam reconstruction (to upgrade to new standards). Steve coordinated the Wagman workforces and subcontractors. He was responsible for site safety, environmental compliance and the project schedule. Do to the success of the early work, Wagman continued into Phase 2 and 3 and have maintained environmental compliance and the project schedule. 	
List any awards and/or commendations received for the project: We have received positive press and compliments from the Owner, who has expressed interest in continuing to work with Wagman on the next phase of the project.	
Name of Client (Owner/Agency, Contractor, etc.): Homewood Retirement Centers	
Address: 16107 Elliott Parkway, Williamsport, MD 21795	
Contact Name: Conrad Peachy	Telephone: 717-658-9271
Owner's Project or Contract No.: N/A	Fax No.: 301-582-4896
Contract Value (US \$): 80,000,000	Final Value (US \$): Pending
Percent of Total Work Performed by Company: 50%	
Commencement Date: June 2013	Original Completion Date As Defined in IFB: TBD
Actual Completion Date: Phase 1 and 2 completed, additional phases pending.	
Any disputes taken to arbitration or litigation? Yes <input type="checkbox"/> No X	

Environmental Past Performance
 Environmental stewardship is extremely important to Wagman and part of our everyday life, both in our offices and our construction practices. We constantly seek opportunities to avoid, minimize, or mitigate impacts to the environment. On the following page is a chart of project specific techniques which reduced environmental impacts.

Project	Environmental Improvements (Suggested by)
I-80 Bridge Replacement	Design of temporary causeway to reduce temporary impact within the river, wetlands and floodplain. (Wagman) ■ Pumped water into dewatering basins, designed by Wagman, reducing sediment released into adjacent streams or rivers. (Wagman)
Susquehanna River Bridge	Design of temporary causeway to reduce temporary impact within the river, wetlands and floodplain. (Wagman) ■ Pumped water into dewatering basins, designed by Wagman, reducing sediment. (Wagman) ■ Coordinated w/archaeological excavation. (Owner)
I-95 & I-695 Interchange	Redesign of foundation to use H-pile instead of caisson to reduce waste. (Wagman) ■ Installed support of excavation along Stemmers Run. (Wagman) ■ Install temporary bridge over Stemmers Run to minimize impacts. (Wagman)
Woodrow Wilson Bridge	Redesign of foundation to use H-pile instead of mass excavation and use of Geofoam Blocks. (Wagman) ■ Utilizing Context Sensitive Design the hiker/biker trail was redesigned to incorporate local aesthetics and environmental elements. (Wagman) ■ VE proposal to modify hiker/biker trail including a bald eagle outlook on Rosalie Island and Smoots Cove. (Wagman) ■ A floating bridge was designed and constructed to gain access for construction. This replaced a causeway or temporary trestle that would have impacted wetlands and floodplains. (Wagman)
ICC A and B	Open bottom culverts to minimize stream impacts. (Wagman) ■ Interchange redesign to minimize stream/wetland impacts. (Wagman) ■ Underground SWM basins to reduce thermal impact. (Owner) ■ Spanning flood plain with bridges and maintaining minimum heights to minimize environmental impacts. (Owner) ■ Stream relocation and water quality monitoring. (Owner) ■ Turtle relocation. (Owner) ■ Bioswale installation for water quality. (Wagman) ■ Install caissons instead of spread footing to minimize impact to floodplain and wetlands. (Wagman)
Route 52 and Egg Harbor Bridge	Installation of temporary trestle to minimize impact to salt marsh and wildlife. (Wagman) ■ Designed and constructed three access roads that allowed the existing marsh material to remain in place and accelerated the recovery/restoration of the marsh. (Wagman) ■ Limited activity heron rookery. (Owner) ■ Reduce impact to Atlantic Sturgeon with bubble curtain and spawning restrictions. (Owner)
Rivanna River	Changed spread footer foundations in River to drilled shafts. Provided VDOT with VE cost savings and reduced permanent stream impacts. (Wagman)
Shenandoah River	Redesigned causeways to improve access, reduce/eliminate potential hazards to boat/recreation traffic and minimize impacts to historical artifacts. (Wagman)
Nottoway River	Used explosives demolition to remove bridge in a more expedient time manner reducing duration of temporary impacts. (Wagman)
Meadowcreek Parkway Extension	Used temporary bridge vs. stream crossing/causeway and changed box culvert to bridge, eliminating wetlands impacts and need for Corps of Engineers (COE) permit. (Wagman) ■ Eliminated lawsuit against COE for issuing original permit. (Owner)

The following table highlights projects where Wagman responded to environmental issues:

Project	Environmental Issue	Wagman Response
ICC A	Working out of sequence during demolition of existing dwellings.	Halted Demolition Operation and installed proper E&S control that day.
	Working out of sequence - modified approved plan to minimize impact without proper approval.	Stopped work and repaired the affected area as soon as notified.
	Repair to outfall at SWM pond when a worker encroached upon the outfall which was reclassified as Waters of the US.	Stopped work, corrected problem and issued new sequence of construction.
ICC B	Working out of sequence when maintaining stream flow.	Project team shut project down, conducted additional training. Work items of the sequence of construction were initialed as they were completed.
I-95 & I-695 Interchange	Dewatering of a SWM Basin created a siltation issue.	Initiated use of tankers to reduce sediment output of discharge
Route 29 Latex Overlay	Disposal of slurry from hydro-demolition of a bridge deck.	Modified sequence of operation to treat and properly dispose slurry.

Corporately Wagman encourages staff to reduce waste and pollution whenever possible. Below is a chart illustrating corporate-wide environmental initiatives implemented by Wagman to be an environmental steward and “good neighbor.”

Environmental Initiative	Description
Project Specific Environmental Compliance Plans	Wagman requires a Project Specific Environmental Compliance Plan on all Wagman projects.
Employ LEED certified personnel	Wagman employs at least 6 LEED certified personnel and we routinely build LEED certified facilities.
Use recycled Paper	All offices and whenever possible field offices will use recycled paper products.
Recycle plastic and paper products	All offices and whenever possible field offices will use recycled paper products.
Recycle Asphalt, concrete and all metal products	On all of our projects and at our permanent yard facilities we recycle asphalt millings, crush broken concrete and recycle iron, aluminum, copper and other metal products.
Low Sulphur diesel fuel in equipment	Whenever possible we utilize low Sulphur diesel fuel in our construction equipment.
Installation of engineered access roads or temporary trestle to minimize environmental impact.	We develop plans to minimize environmental impacts. We use engineered access roads that may have a smaller footprint or we explore the use of a temporary trestle.
Use of used motor oil to heat our maintenance shop	Our maintenance facility has modified the heating system to utilize old motor oil as a fuel to keep the shop warm.

Section C

Project Approach

Section C Project Approach

1. Strategic Project Approach

a. Discussion of project's goals and our approach to maximizing and attaining the goals from Preconstruction through Construction phase.

This is an extremely important project for Maryland SHA, Montgomery County and the Town of Brookeville. The project has very specific goals and we plan to achieve all of the project goals during preconstruction, design development and construction. Wagman will partner with SHA and the designer and to maximize and attain the project goals listed below:

Goals

Provide a two lane roadway to direct traffic away from the Town of Brookeville which accommodates motor vehicles and bicycles.

SHA has accomplished most of this goal through the EIS process when SHA selected proposed Alternate 7 Modified. Wagman will continue to work with SHA and the Designer to design and construct the two lane roadway that will direct traffic away from the Town of Brookeville. The new "bypass" will have two 12-ft travel lanes with 5-ft shoulders that will accommodate bicycles. Through proper coordination and construction phasing, this goal can be accomplished with minimal impact to the traveling public. We did this on a much larger scale when we were the Lead Contractor on Contract A and Contract B of the ICC.

Minimize impacts to the physical environment and provide an aesthetically pleasing and context sensitive project.

Wagman will work with SHA and the Designer to explore ideas to minimize impacts to the environment and to develop the best solutions using Context Sensitive Design. We have successfully minimized minimizing environmental impacts on past projects: environmental impacts were reduced by more than 10% in the EIS on the ICC. We understand that the highway design needs to fit into the surrounding environment and character of the Town of Brookeville as well as preserve the existing features through design and construction. We will work with SHA, the Designer and third party stakeholders to develop the best context sensitive solution. For example, enhancements may include split-rail fence to match the Oakley Cabin fence, signage to match existing cast iron signs, and light fixtures with a vintage appearance.

Complete the project within the current construction timeframe and within the current budget.

We are committed to completing the project on time and within budget, and have a proven track record of successfully completing award-winning projects. As demonstrated in this proposal, Wagman's engineering staff has developed a sequence of construction to complete the MD 97 project on time and within budget. We will work during Design Development and Construction to create the most cost-effective solution, while maximizing the project goals. Wagman is very competitive in the Bid-Build, Low-Bid Procurement process. In the past six months, Wagman has been the apparent low bidder on more than 33 percent of the projects that we pursued and were ranked first or second on more than 67 percent of the projects bid. Wagman relies on 113 years of detailed cost information from constructing roadways and bridges in the mid-Atlantic to support our proven and thorough estimating process which

results in producing estimates that are complete, accurate, and competitive, time and time again.

Minimize inconvenience and impacts to the traveling public.

Impacts to the traveling public will be minimized by constructing the majority of the two lane road “off-line” and maintaining traffic on existing MD 97. The roundabout on the southern end of the project will be constructed outside of the footprint of existing MD 97 and with some minor temporary asphalt; we can maintain traffic on existing MD 97. In a later phase, we will tie into existing MD 97 on the south terminus during off-peak hours. Most of the roundabout can be constructed off-line, but if we shift the location slightly to the north, the entire roundabout can be constructed without impacting traffic on Brookeville Road. In a later phase, we will work during off-peak hours to tie Brookeville Road to the new bypass. Temporary asphalt widening along existing Brookeville road and construction phasing will help reduce impacts to the traveling public on Brookeville Road. The northern terminus tie in will be constructed utilizing temporary asphalt paving and off-peak work hours to minimize impact to the commuters. We will coordinate material deliveries to minimize impacts to local residents, businesses and traveling public, utilizing off-peak hours. During Design Development alternatives will be explored to maintain pedestrian access along Oakley Cabin Trail.

A robust and proactive public outreach program will provide proper notification and further alleviate impacts to the traveling public and adjacent third party stakeholders.

Facilitate a collaborative partnership with all members of the project team and stakeholders.

Wagman embraces the partnering process. We have extensive experience partnering with SHA and the Designer (JMT) on many projects including the Woodrow Wilson Bridge Project, Section 100 (I-95/I-695 Interchange) and the Intercounty Connector. Our partnering experience is supported by multiple MdQI partnering awards.

Wagman understands the environmental regulations and have worked with all of the regulatory agencies who may have jurisdiction on this project, and have successfully obtained permits and permit modifications. Wagman knows the local utility companies and have worked with them to relocate their facilities on many projects throughout the state and specifically in Montgomery County. Our project staff, supported by our in-house Marketing/Public Outreach Department and our sub consultant Travesky and Associates will create the Public Outreach Plan and assist with coordination of third-party stakeholders. Meetings will be held to disseminate information and all interested stakeholders will be invited and encouraged to comment. Wagman will work closely with SHA and the Designer to present a common message to the public and stakeholders.

Preserve the historic character of the Town of Brookeville.

Relocating MD 97 will help to preserve the historic character of the Town of Brookeville and extend the historic character to the new roadway and elements of the historical surroundings will be incorporated into the design. During Design Development we will work with the local stakeholders, Montgomery County, MNNCP, the Town of Brookeville and the Historical Society to develop Context Sensitive solutions that preserve the historic character of Brookeville. Landscaping and architectural finishes, fencing, form liner, staining, brick pavers and plantings will significantly enhance the character of the Town. We are aware of the Newlin Mill and its significance to the Town of Brookeville and will work

through Design Development and Construction to promote the historical significance of the Mill. During one of our recent projects for Homewood, we incorporated existing architecture and community interests into the new design and construction. We coordinated with the owner, designer and third party stakeholders at Homewood that we are now working on Phases 3 and 4 of their construction expansion project.

Wagman is committed to maximizing and achieving the project goals. Our Key Staff have a proven track record completing projects on time, within budget and achieving all projects goals.

b. Discussion of approach in Design effort to reduce errors and omissions, improve constructability and reduce cost of construction. Describe processes used to support design development and decision making, and how these proposed changes will help SHA decide which to use. How will the savings, risk mitigation and value added be tracked and documented?

The CMAR process allows coordination between the Designer, Contractor and Owner. Our Design Development Team, led by our proposed **Project Manager** Anthony Bednarik, and including our **Cost Estimator** T. Rob Shunk, PE who will also assist with highway design coordination; our **Structural Design Coordinator** Alex Brown; **Geotechnical Design Coordinator** Ed Laczynski, PE; **Utility Coordinator** Jason Hershey; and our **Environmental Compliance Manager** Josh Nelson will work directly with the Designer to develop options and alternatives that will improve constructability, safety, minimize environmental impacts, and reduce costs through task force meetings, “over the shoulder” reviews, and open communication. In addition, our Design Development team has over 50 years of documented cost history to use as a resource to discuss options. The Design Development team will also have support from our Construction Team, led by our **Construction Manager**, Steve Wood. These added resources will assist with constructability reviews.

Early coordination, task force meetings and constructability reviews will minimize errors and omissions, and reduce risks, while solutions will be vetted by the Design Development team and the Designers. For example, foundations are an area of high risk. Our in-house geotechnical engineering experts will work directly with the Designer’s geotechnical engineers to develop the best solution to design and construct the foundations while minimizing risk.

Upon selection, Wagman will develop a preliminary estimate based on information provided by the RFP. The preliminary estimate will include reasonable assumptions and evaluate project risks. Once we establish the preliminary estimate, we will create an “Innovative Engineering” Register to track potential savings to cost, schedule, reduced environmental impact or impacts to third party stakeholders. Each Innovative Engineering (IE) idea will be quantified and estimated to determine the real impact to the project. As alternates or options are introduced we will populate our IE register, evaluate, and provide recommendations to the Project Team. We will discuss all options and alternates with the Designer and SHA to select the best solution for the project. As an example, our early engineering analysis has determined that the project has over 50,000 cubic yards of excess waste material. We will work with the Designer and SHA to optimize vertical alignment of the roadway to reduce the excess waste, reduce cost, accelerate construction schedule, and minimize impacts to the environment.

During Design Development we will work with the Designer to create constructability hold points, so that proper reviews can be accomplished. Each design element will be reviewed by our Design Coordination team and, if required, our Construction team. When all design elements are compiled into a design submission, our Design Coordination team will complete additional constructability reviews to ensure that the scope of work is clear, sequence of construction is complete, and that there are zero conflicts during construction among the design elements. Working with SHA and the Designer, we will create a formal Constructability Review Form. The form will be tailored to the MD 97 project, and will likely include elements such as sequence of construction, access, lay-down, equipment requirements, material selection, environmental impacts, and MOT impacts. Once a constructability review is completed, we will provide a Comment Resolution Form to the Designer and SHA with our comments. The Designer and SHA will address our comments on the Comment Resolution Form, to document the review and comment process at each constructability hold point.

Utilizing the partnering process, Wagman will strive to resolve issues at the lowest possible level. In the event that an issue cannot be resolved, we will follow the issue resolution ladder to elevate the issue to the proper responsible people. In our experience, partnering is a key process to elevate issues early and minimize impacts to project schedule or cost.

c. Approach to providing successful general contracting services based on prior experience and how it applies to meeting SHA objectives. Include specific examples of firm processes. Provide description of construction work the PM Team can self-perform, including qualifications, and to subcontract. Discuss process to solicit subcontractors and compliance with COMAR 21.05.10.05.

A comprehensive Safety Program is vital for a successful project. Our corporate safety director works with his staff of safety managers to develop a project specific safety plan. Each team member will be required to complete the safety training and to attend daily huddles to discuss “today’s” activity and any safety hazards associated with the activity, called the Activity Hazard Analysis (AHA). Weekly Tool Box Talks will be conducted to discuss more general safety concerns. We have included a table of contents of our safety program in the appendix.

In addition to the safety plan, we create a project specific Environmental Compliance Plan that includes but is not limited to such items as:

- Project Overview
- Environmental Permits
- Commitments
- Environmental Organization
- Line of Communication
- Emergency Telephone Numbers
- Delineation and Signage
- Good Housekeeping
- Construction Access and Mobility
- Non-compliance
- Issue Resolution
- Limits of Disturbance
- Clearing and Grubbing
- Erosion & Sedimentation Controls
- Erosion & Sedimentation Modifications
- Wetlands and Waters Protection
- Pumping/Dewatering
- Floodplains
- RTE, Tree and Vegetation Protection
- Concrete Truck Operations
- Cultural Resources
- Air, Noise, Dust Control

Wagman has developed many other processes to provide successful General Contracting Services. Our success starts with accurate, organized estimates. We have in-house estimating and engineering staff that are involved in project pursuit and planning. Our engineers and estimators use HCSS Estimating Software, which is the leader in the Transportation Industry. HCSS is extremely detailed and each cost activity will include labor, equipment, production, permanent material, construction material and subcontractors. Each project is quantified using systems such as Blue Beam, Carlson and AGTEK. The quantities generated are then organized into an Excel spreadsheet which allow us to further breakdown the work elements into items that match our cost history such as concrete forming, pipe installation, excavation, concrete placement and small tools.

Our estimators work closely with our engineering staff to develop details for complex items including temporary access roads, temporary bridges, beam erection, demolition, and support of excavation. During estimate development, these items are engineered, designed and plotted to ensure the most complete and accurate estimate possible. Upon completion of our estimate, our field operations conduct a constructability review to ensure the estimate is complete and accurate. Corporate policy requires that all estimates are reviewed by Operations and Senior Management prior to submission.

During the estimating process we create bid schedules, equipment schedules and DBE plans to ensure we have the equipment necessary and there are opportunities for DBE vendors and subcontractors. On a Design-Build project or a CMAR project we conduct weekly Task Force Meetings during Design Development. The Task Force Meetings are attended by the design lead and the design coordination lead for a particular discipline (i.e. structures, roadway, and traffic). Once a week the entire team will report to the management team at the weekly Design Development Management Meeting to update and raise issues for resolution. At the weekly management meeting a 3-week look-ahead schedule will be distributed and discussed to keep the team on track. The three week look-ahead schedule is an extension of the Project CPM (P6 current edition) that is updated monthly. Each meeting is recorded using meeting minutes with action items assigned to the proper team member to best resolve the issue. Support members will be added to action items, so the lead knows who to contact to resolve issues.

As we move into the construction phase, we create Work Activity Plans. For each major activity we develop a Plan that becomes the guide to a safe, compliant productive project, the plan includes the following:

- Work Activity & TOC
- Cost Codes & Budget
- Crew make-up (craft & equipment)
- Permanent & Construction Material
- RFC Drawings
- RFC Specifications
- Access Plan
- Detailed Sequence of Construction
- QA/QC Requirements & Hold Points
- Environmental Requirements & Commitments
- Safety (AHAs, PPE, Emergency numbers, safety checklist)
- Shop Drawings (Material, Erection, Demolitions)
- Public Outreach Requirements

During construction, the construction team is supported by the estimators and engineers that were involved with the project from inception. This allows for continuity from the beginning of the project to project closeout. This is very important on a CMAR project or Design-Build project, because institutional knowledge can be passed onto the production crews from the Design Coordination team.

Wagman self-performs more than 50% of the work on all of our contracts throughout the Mid-Atlantic. We pride ourselves on being builders. We self-perform many items of work as outlined below:

Wagman Self Performance	
Clearing and Grubbing	Structure Excavation & Backfill
Erosion and Sedimentation	Drive Pile
Stripping topsoil	Install drilled shafts
Excavation and embankment	Install micro-piles
Installation of aggregate subbase	Form & Pour Foundations
Fine grading	Form & Pour Substructure
Spreading Topsoil	Form & Pour Superstructure
Drainage Pipe & Structures	Erect PS Concrete Beams
U-drain	Construct Retaining walls
Stormwater Management Basins	Install Box culverts

We self-perform as much work as possible, but there are many specific activities that we typically subcontract. These subcontracting opportunities are listed in the chart below.

Typical Subcontracting	
Install Reinforcing Steel	Landscaping
Guiderail & Fence Installation	Quality Control
Asphalt Paving	Quality Acceptance
Pavement Markings	Trucking
Seeding	Paint & Stain
Deck Pan & Stud Installation	Lighting & Signals

During the estimating process, Wagman contacts subcontractors and vendors and complies with all state laws. Our solicitation process targets qualified subcontractors and vendors, in particular minority or disadvantaged businesses, to comply with COMAR 21.05.10.05. Our solicitation process for this CMAR project is as follows:

1. Wagman shall send the solicitation notice to the Governor’s Office of Minority Affairs.
2. Wagman will work with the State to advertise the procurement on eMaryland Market Place.
3. Wagman will send solicitations via facsimile or e-mail at least 15 days prior to bid date.

4. Wagman will provide adequate information about the plans, specification and schedule. This information will be provided via hard copy, ftp site or Drop Box.
5. Wagman will establish pre-bid meetings and minority outreach meetings.

Wagman has been very successful meeting or exceeding minority and disadvantage business goals as exhibited on some of our recent past projects for Maryland shown below.

Project	\$ Contract Value	MBE/DBE Req'd	MBE/DBE Actual
ICC – A	464,000,000.00	20.00%	22.20%
ICC – B	560,000,000.00	20.00%	23.30%
Section 100 (I-95/I-695)	217,000,000.00	16.00%	16.30%
WWB I-95/I-295/I-495	106,000,000.00	18.00%	18.20%
WWB MD 210 Interchange	62,000,000.00	17.00%	18.00%

d. Discussion of approach to minimizing environmental impacts during Design/Construction phase and coordination, balance and addressing needs of various stakeholders.

Our project team, which includes Chesapeake Environmental Management, Inc., will develop a Project Specific Environmental Compliance Plan and corresponding training. The Project Specific Environmental Compliance Plan will discuss environmental resources and methods to protect, avoid and minimize impacts. Our entire team, management, Design Coordination and Construction, will receive project specific training that will address sensitive areas within the project such as the Mill Run and Reddy Creek, Waters of the U.S., Wetlands, floodplain and RTEs. Working with the Design team, we will identify all impacted areas and document all permit conditions to maintain compliance. We will create a project specific Commitment Tracking Database for use during Design Development and Construction to capture permit requirements and stakeholder feedback.

Environmental impacts will be identified and noted on our Construction Work Plans. The environmental permit requirements will be identified and we will work with the Design team to discuss options that avoid or minimize impacts based on the latest construction techniques and equipment.

Team member Travesky and Associates will assist with public outreach and coordination. During Design Development we will work with the Design team to conduct public outreach meetings. At these meetings, we will be available for discussion with the third party stakeholders and they will be given the opportunity to comment on the design and construction process. All comments will be recorded and tracked, and we will collaborate with the Designer and SHA to address each comment.

Prior to construction, we will hold a project kick-off meeting to discuss the upcoming construction schedule and phasing. All project stakeholders will be given an opportunity to comment on our construction plan, and each comment will be cataloged and addressed in our final plan.

During construction, variable message boards will be strategically placed to communicate with the traveling public. We will establish a project interactive website, where stakeholders can view our plans

and communicate with the Construction team. Wagman’s internal Marketing/Public Outreach Group is available to work with SHA and Travesky to ensure that all material contains the proper message and is professional and positively represents all team members. Available outreach services include developing and maintaining an E-mail list, Twitter list, and Facebook page to communicate with the stakeholders and traveling public.

e. Propose a Construction approach and sequence that optimizes value (from budget and schedule) with a realistic view of known constraints. Discuss factors that would affect budget and schedule.

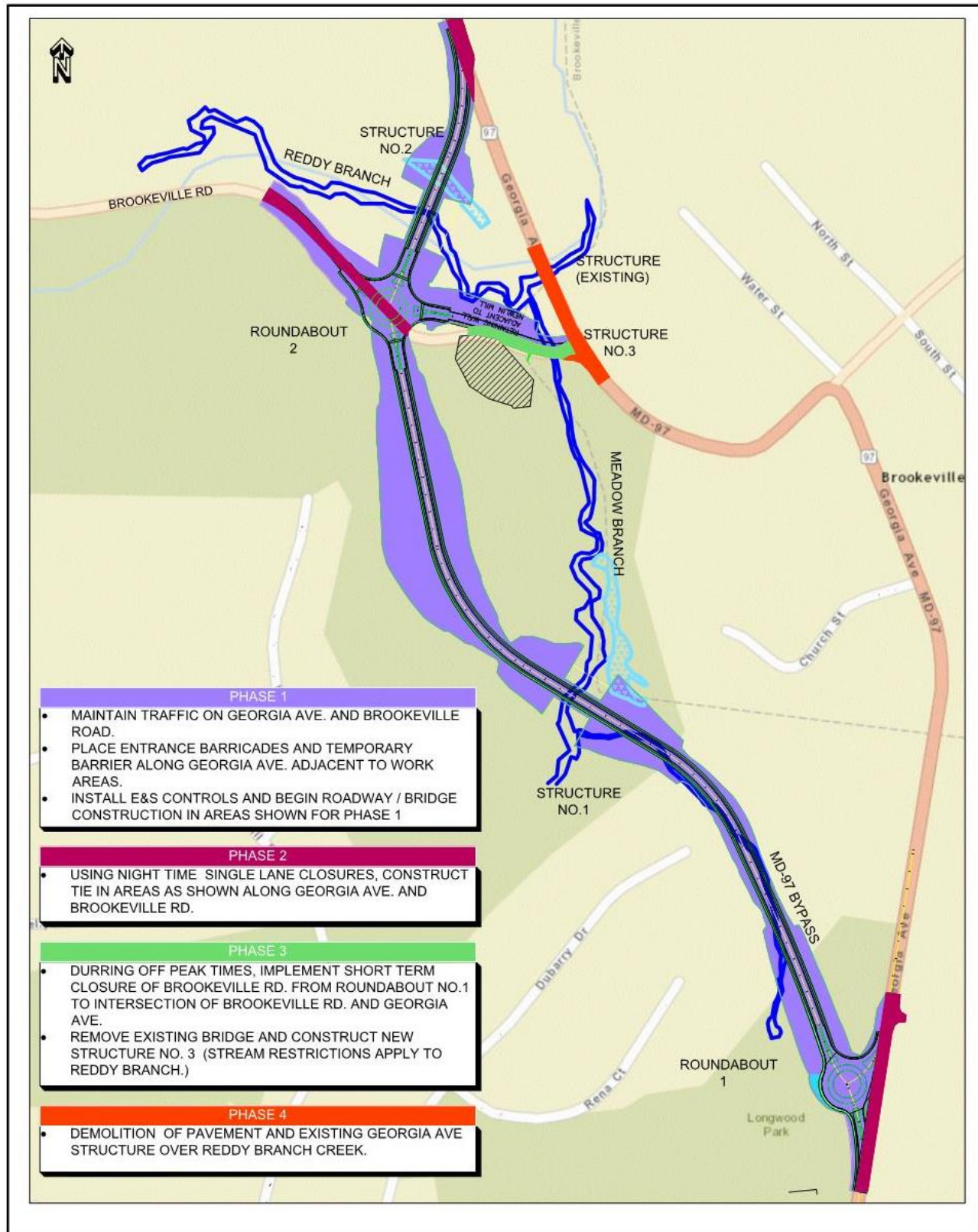
Our construction approach is to staff the project with experienced and professional management personnel who understand construction, and provide the management staff with skilled labor, equipment and adequate resources to complete the project on time and within budget. Our Construction team will be led by our Construction Manager Steve Wood. Steve will have a full staff to execute the contract as outlined below.

Project Role	Name	Qualifications
Structures Superintendent	Andrew Michenzi	14 years of experience, successfully worked on MD 4 in PG County, presently Bridge Superintendent on Fishing Creek in Chesapeake, MD, previously Engineer/Superintendent on ICC-B.
Roadway Superintendent	Mark Bixler	25 years of experience, Roadway Superintendent on the I-95 & I-695 Interchange, Roadway Superintendent on ICC-B, managed roadway operations on Homewood at Willow Ponds Project.
Geotechnical Superintendent	Shawn Painter	27 years of experience in geotechnical construction including pile driving, micro-piles, tie-backs and tie-downs, successfully installed support of excavation, underpinning and retaining walls.
Utility Coordinator	Jason Hershey	15 years of experience as an estimator and utility coordinator, currently Utility Coordinator on two Design-Build projects.
Environmental Compliance	Josh Nelson	Extensive experience with Environmental Compliance in Design and Construction
Scheduler	Stephanie Pratt (iCivil Inc.)	16 years of experience in construction management and scheduling; working with FHWA and SHA

In addition our Construction team will include Project Clerk, Field Engineer, Public Outreach, Safety Manager, QA Manager, and QC Manager.

Our engineering staff has studied the project and developed a realistic sequence of construction. We understand during Design Development that a phase may be segmented, due to drainage areas, grading units, Archeological investigations, RTE restriction or in-stream restrictions. As shown on the map on the following page, we have broken the project into four major phases to maintain budget and schedule and to reduce impacts to the environmental and travelling public. We believe this sequence maximizes and achieves the project goals.

Wagman’s Construction team will be assisted by iCivil Inc., a WBE/DBE firm, who will provide schedule development, analysis and updating to maintain the schedule and budget.



f. Identify other resources/capabilities and describe additional unique resources and capabilities brought to project, and how these unique resources and capabilities will be beneficial in achieving project goals.

Innovation is a core value at Wagman. Over the years, we have diversified into complementary market segments to enhance our service offering. . In the 1970s we became one of the first contractors to produce and install Latex Modified Concrete (LMC). LMC is a durable product and can be applied to bridge decks to extend the bridge life and reduce maintenance. We are the largest LMC installer in the Mid-Atlantic region and have completed projects from Maine to Louisiana.

Over the past five years, we have expanded our geotechnical expertise through acquisition opportunities, people and equipment. While Wagman has installed piling since 1912, and have expanded our capabilities. Wagman’s geotechnical construction services include drilled shafts, micro-piles, tie-backs, tie-downs, support of excavation and underpinning. Not only do we install these geotechnical elements, we have professional engineers on staff that can design, re-design or value engineer foundation types to save time and reduce cost. This allows us to reduce risk on CMAR, Design-Build, or Bid-Build projects. In addition to reducing risk, we self-perform most of this geotechnical work which allows us to control the schedule and cost. This also allows us to choose foundation types that minimize impacts to the environment, similar to ICC – B where we used drilled shafts instead of spread footings and minimized permanent impact to wetland and floodplains.

Earlier this year, Wagman formed a Grooving and Grinding group to self-perform grooving of bridge decks and concrete paving. We will self-perform the bridge grooving allowing us to control the schedule and open the bridge on time.

Wagman routinely presents Innovative Engineering Proposals to Owners in the interest of project schedule, safety, environmental compliance or cost savings. In the Design-Build process we present Alternative Technical Concepts, and on Bid-Build Projects we present Innovative or Value Engineering Proposals.

Below are examples of Innovative Engineering Proposal opportunities on Bid-Build Projects that were presented to Owners.

Innovative Engineering Proposals		
Project	Description	Benefit
WWB MB4	Redesigned Bridge Foundation and fill material at Bridge 29	\$2,200,000.00
Sec 100 (I-95/I-695)	Redesigned Pier Foundations	\$2,100,000.00
Sec 100 (I-95/I-695)	Modified the MOT for Major traffic switches	Safety-Eliminated unsafe scenario
Salisbury Bypass	Lengthened the Wicomico River Bridge to relocate an abutment outside of the flood plain	Reduction in Environmental Impacts



Innovative Engineering Proposals		
Fishing Creek Bridge Replacement	Redesigned foundation and ground improvement	\$1,000,000.00

Our general construction operation focuses on commercial construction and 80% of the work is negotiated, mostly as Construction Manager at Risk. Wagman restores historic buildings and rehabilitates inner cities. Many times we must match existing historic architecture and create new construction that blends into the character of a neighborhood. Wagman is also very involved in the Senior Living market which often has significant site work, environmental components and phased construction. We have LEED-certified project managers, which allows us to ensure sustainability and smart growth in our developments.

We have established a corporate wide environmental compliance plan to ensure we are compliant as a company. As part of that corporate initiative, we develop Project Specific Environmental Compliance Plans for all Wagman projects. Project Specific Environmental Compliance Plans educate our employees and create guidelines to avoid, minimize and mitigate environmental impacts.

Wagman employs in-house counsel to assist with risk management, insurance, contracts, subcontracts and purchase orders. This in-house counsel allows a quick response to any issue that may arise.

Some other unique resources and capabilities of Wagman:

- Capital capacity/strength
- Drills for pile or shafts
- Long term employees: 30 years plus
- Professional engineers on staff
- In-house 3D modeling
- All Foreman maintain MD Yellow and Green Cards for E&S
- In-house IT staff
- In-house Marketing/Public Outreach
- In-house survey

Wagman believes in learning Best Practices and shares these with others on the team. This has allowed us to continually grow, retain repeat clients and consistently rank among Best Places to Work.

g. Describe any innovative ideas or proposed technical concepts that may or may not meet RFP requirements but could increase likelihood of success and help balance project goals.

We have studied the RFP and the information available to the contractors for this procurement and present some innovative ideas in the following paragraphs.

- ❖ Relocate roundabout at Brookeville Road to the northwest, so it is completely off-line facilitating performing the construction without impacting the traveling public with tie in to Brookeville Road when completed.
- ❖ Adjust alignment along the new MD 97 to minimize excess waste. The project’s Conceptual Design would result in 130,000 cubic yards of cut and 54,000 cubic yards of embankment for an excess of 76,000 cubic yards to waste. If constructed without design modification, more than 15,000

commercial truck transits on the local roadway network to remove the excess material. The following are potential improvements to the alignment;

- Create a separate Hiker-Biker Trail to move bicyclists and pedestrians off the bypass. This trail could mirror the bypass or stay on existing MD 97 through Brookeville. Once through traffic is on the bypass a Hiker-Biker trail may be able to be constructed along Existing MD 97. Please refer to the appendix for a revised typical section.
 - Design and construct top down walls along new MD 97 just south of Brookeville Road through the major cut section. This would minimize waste, reduce the overall highway footprint, and provide additional surfaces for aesthetic treatments using Context Sensitive Design.
 - Retaining walls could be utilized to minimize impacts to the wetlands and floodplains.
- ❖ Use of open bottom arch culverts instead of traditional bridges for the stream crossings. Multiple arches could be used to mimic an old arch bridge for aesthetics. This would be less costly than a traditional bridge, quicker construction and may more closely match the historic character of the Town of Brookeville.
- ❖ Eliminate the roundabouts and use a normal stop sign intersection. This would reduce cost, accelerate construction, but may limit local access.
- ❖ Construct pile bent bridge with cored slab bridge or adjacent box beams. This would be a faster and less invasive bridge construction technique minimizing impacts to the physical environment.
- ❖ Build Retaining wall between Brookeville Road and Mill Run to minimize environmental impacts.
- ❖ Relocate the Waters of the U.S. similar to what we achieved on ICC – A & ICC –B to preserve stream and character of the Town of Brookeville.

The following matrix illustrates the benefit (✓) of our innovative ideas presented above.

Description						
	Safety	Timeframe	Budget	Quality	Environmental Impacts	Traveling Public Impact
Relocate Roundabout	✓	✓	✓	✓	✓	✓
Adjust Alignment	✓	✓	✓	✓	✓	✓
Arch Culverts	✓	✓	✓	✓		✓
Eliminate Roundabouts		✓	✓	✓	✓	
Pile Bent Bridge	✓	✓	✓		✓	✓
Build Retaining Wall – Brookeville Road	✓	✓	✓	✓	✓	✓
Relocate the Waters of the U.S.	✓			✓	✓	✓

2. Risk and Innovation Management

a. Discuss the process we'll use to eliminate and/or mitigate risk and apply innovation during the Design phase, and discuss how we will track and report risk mitigation and innovative savings. Discuss how we will support the team during Preconstruction and Construction activities to achieve a favorable cost, including ways to bring the project costs down and on a schedule that is better than traditional projects.

Wagman has worked on CM at Risk (CMAR) contracts over the past 20 years. We are very familiar with the process and understand how the CMAR process helps manage risk, reduce risk and encourage innovation. Working as a team the Owner, Designer and Contractor can call upon all of our experiences and resources to create the most cost effective and efficient solution.

Wagman has been in the construction industry since 1902. We have completed emergency repairs, tunnels, complex interchanges, maintenance of traffic in heavily traveled corridors, bridges and marine work. We understand risk. As an innovative contractor, we have participated in many innovative procurement processes such as Design-Build, Cost Plus Time (A&B), Public Private Partnerships, Construction Manager at Risk and standard Bid-Build procurements. Each process has different benefits to assessing risk, allocating risk to the proper participant, and mitigating those risks.

In the CMAR process we strive to identify possible risks and list on our risk register, which is a living document used to identify and track risk as the design development progresses and during the construction phase. After identification of the risk item, key elements are assessed that may impact schedule, cost, environment, safety, quality, third party stakeholders, utility owners, designer, contractor, subcontractor and owner.

As we start the CMAR process and engage the Owner and the Designer we share the identified risks and incorporate risk that has been identified by SHA, the Designer or other third party stakeholder. We review each risk and determine a plan to mitigate the risk through design and construction. We accomplish this by working together, communicating and conducting constructability reviews during design. Our team has experience in this type of collaboration and has many the resources of experienced staff and previous preconstruction experience to utilize within our organization.

b. Identify (in table shown in RFP) top risks and innovations that we will help manage in Design and Construction and how it will mitigate/eliminate the risks and implement the innovations, and identify any projected cost or time savings.

The table on the following page identifies top risks and innovations that Wagman identified and will manage during the CMAR process. We will partner with SHA, JMT and third party stakeholders to reduce and mitigate risk.

Risk & Innovation		Probable Cost Savings (PCS)	Probability of Occurrence (POO)	Cost Savings to Project (PCS x POO)	Schedule Impacts (days)	Summary of Mitigation/Elimination or Implementation Plan
Environmental Compliance, Permitting & Impacts (Schedule Risk)	Construction Cost Savings	600,000	65%	520,000	120	Project specific environmental compliance plan & training / early identification & survey of environmental resources / Retaining walls to minimize impacts / Early Archeological investigations / Construct retaining wall between Brookeville Rd and Newlin Mill
	User Cost Savings	200,000				
Geotechnical /Foundations (Cost & Schedule Risk / Innovation)	Construction Cost Savings	1,000,000	75%	825,000	20	Our in-house geotechnical engineers will work with the Designers to ensure that the most cost effective and efficient solution is determined for foundations and walls; Reducing risk & cost overrun. / retaining walls & tiebacks / Self-perform many foundation solutions
	User Cost Savings	100,000				
Utility Relocation (Cost & Schedule Risk)	Construction Cost Savings	350,000	75%	375,000	60	Starting Utility coordination during design and using the same utility coordinator during construction will eliminate delays due to utility relocations
	User Cost Savings	150,000				
Stormwater Management / Erosion & Sedimentation / Hydrology & Hydraulics (Cost & Schedule Risk)	Construction Cost Savings	200,000	50%	125,000	60	Brookeville Road stream crossing is a box culvert, could become a bridge / early constructability review of E&S sequence. / Early survey, investigations and coordination mitigate risk.
	User Cost Savings	50,000				
Establishing Final Roadway Alignment (Cost & Schedule Risk / Innovation)	Construction Cost Savings	800,000	50%	430,000	40	Early coordination between Design and Construction will set the final alignment to mitigate project schedule. / Adjustment of vertical alignment can reduce waste.(Preliminary design: 76,000 cubic yards of waste) / Retaining Walls to mitigate environmental impacts associated with the alignment / Separate Hiker/Biker Trail from Roadway section (if possible) / Top-down wall at major cut section / Relocate Waters of the US
	User Cost Savings	60,000				
Budget (Cost Risk / Innovation)	Construction Cost Savings	800,000	50%	500,000	20	Innovations that may reduce cost: Relocate Brookeville Rd roundabout to construct off-line / Use arch culverts in lieu of standard bridge construction / Pile Bent Bridge construction to accelerate construction and minimize temporary environmental impacts / Eliminate roundabouts for a stop sign intersection / Construct only the roundabout at Brookeville Road (access to Town of Brookeville from Brookeville Rd only
	User Cost Savings	200,000				

Wagman mitigates risk every day. Risk is inherent to our business and we have the policies, processes and procedures to manage risk. We have experienced personnel who have worked as builders, design coordinators and construction managers. As a company, Wagman has over 20 years of experience in CMAR projects and we have the resources to staff this project through Preconstruction, Design Development and Construction.

Wagman believes that risk can be managed, and much of the risk can be mitigated, when a team works together. Open and honest communication is important and Wagman believes that executive involvement can also reduce risk.

Due to the importance of this project and in an effort to further mitigate risk, Wagman is establishing a Project Executive Committee comprised of Gregory M. Andricos, PE as the Project Executive and Kevin Snoke as Executive Consultant.

Mr. Andricos has over 19 years of experience in delivering complex Design-Build transportation projects in the greater Baltimore-Washington Metropolitan Region through collaboration with JMT as the Designer of Record. These include public (MDSHA – Arena Drive Interchange, FHWA-EFLHD/DDOT – 9th Street and Taylor Street Bridge Replacements, and FHWA-EFLHD/VDOT Fairfax County Parkway Phases I, II, IV and Mark Center Short and Mid-term Improvements) and private (Patapsco and Back Rivers Rail Road bridge over Humphrey’s creek.) In the past decade alone, Mr. Andricos has been the primary point of contact and Design-Build Manager on over \$175M of Design-Build Projects that provided overall “best value” to the owner, were awarded through two-step procurement processes, and were successfully delivered (safely, within budget and schedule) with JMT. All these projects required the Design-Builder to provide turnkey QA/QC for design and construction. Through active partnership and open communication with all shareholders, these projects were delivered with “ZERO” claims.

Mr. Snoke has over 30 years of experience in delivering complex construction and development projects using various procurement methods including design-build, detail-build, design-bid-build, and construction manager at risk. Over the past 20 years, Mr. Snoke has served as the Executive Manager overseeing the construction manager at risk projects in Maryland and Pennsylvania, most recently Homewood at Willow Ponds and Dickinson College. All of these projects were delivered safely within the allowable budget and timeframe.

The Project Executive Committee looks forward to the opportunity to support Wagman’s project management team and collaborate with SHA, JMT, and the other project stakeholders as required to ensure that an economical, environmentally sensitive project is designed using context sensitive methods and ultimately constructed to the satisfaction of the SHA and all project stakeholders.