

MD 4 - FORESTVILLE ROAD TO MD 458 (SILVER HILL ROAD)

Contract No. PG7585184



TECHNICAL PROPOSAL



Presented to:



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Project Understanding & Approach

2.09.02. PROJECT UNDERSTANDING AND APPROACH

The Corman/WR&A Team understands this project's scope and goals and is positioned with an integrated approach to meet or exceed them. We also understand the significant issues and risks facing us and SHA and are prepared to minimize them throughout the project.

A. APPROACH TO SUCCESSFULLY DELIVERING THE PROJECT BY MEETING/EXCEEDING THE ESTABLISHED PROJECT GOALS

The established goals of the MD 4 project have been developed through a partnership with SHA and the MD 4 Community Task Force. Task Force members include the local community and representatives from the Prince George's County Executive Office, County Council, Dept. of Public Works and Transportation (DPW&T); the Maryland-National Capital Park and Planning Commission; and SHA. The Corman/WR&A Team will band together to understand the desires of SHA and the community and meet these goals throughout design and construction. The following is our conceptual understanding of the established Project Goals and our approach to meet or exceed them:

PROJECT GOAL #1 - PROVIDE CONTINUOUS EDUCATION AND OUTREACH

Understanding: To ensure project success, continuous engagement of stakeholders is required during design and construction. In addition, due to the on-going safety issues along MD 4 in the project area, an outreach program steered toward education and awareness of facility users is desired by SHA and the MD 4 Community Task Force. With local community and stakeholder involvement during the planning process, public outreach will be a continuation and expansion of previous SHA efforts. Overall outreach will focus on maintaining a dialogue with stakeholders, addressing local community and stakeholder needs, educating the community and users on how to safely use the facility, heightening motorist awareness to other facility users (pedestrians and bicyclists), and keeping facility users and the local community informed of project activities, especially the impacts of final design and daily construction.

Approach: The Corman/WRA Team has a long credible history of assisting and supporting SHA in providing public outreach on community-sensitive projects, which begins during the planning/design phase and continues through project completion. Outreach program success starts with assigning the right people and right approach. To this end, the Corman/WR&A Team has appointed Odessa Phillips, PE as our Public Relations/Outreach Coordinator. She knows SHA's approach and outreach tools to engage stakeholders. Odessa also brings a familiarity with the diverse communities along MD 4 and the various stakeholders involved based on her experience working on other similar local transportation projects.

To continue SHA's on-going outreach efforts, the Corman/WR&A Team will support SHA in preparing and distributing project information (correspondence, newsletters, mailings, websites, etc.); attending/participating in meetings with property owners, local officials, community and business groups, and other interested parties; attending/participating in public meetings/forums and Task Force meetings; documenting and referring to SHA received questions/comments/feedback; providing notifications as per the RFP; maintaining detailed project documents/records, including construction progress photographs, etc. The Corman/WR&A Team will also establish and manage an emergency response telephone tree in the event of an emergency.

During design, the Corman/WR&A Team will work with SHA and stakeholders to gain a better understanding of stakeholder concerns and needs and will address them as design progresses. During construction, we will work with SHA to inform the local community and traveling public regarding construction activities, changes in traffic (vehicular, pedestrian, and bicycle) patterns, temporary lane closures, changes in transit stop locations and access, utility interruptions, and other construction-related items.

In addition to the more traditional outreach efforts, the Corman/WR&A Team will coordinate with SHA, Prince George's County, and other stakeholders to provide community education on the proper and safe use of the proposed pedestrian and bicycle improvements. This may also involve working with existing street safety campaigns, such as Street Smart, an annual public education, awareness and behavioral change campaign in the Washington, DC, suburban Maryland and northern Virginia area, which includes Prince George's County.

PROJECT GOAL #2 - PROVIDE A SAFE AND ACCESSIBLE PEDESTRIAN FACILITY

Understanding: Due to on-going pedestrian safety issues in this section of MD 4, providing a safe pedestrian environment is a top priority. The most significant pedestrian safety concerns along MD 4, which has a posted speed of 55 MPH, is that the existing dedicated pedestrian paths are not continuous along both sides of MD 4. This forces pedestrians to use the paved shoulders adjacent to vehicular traffic and encourages them to cross MD 4 mid-block or between the signalized intersections.

Approach: Pedestrian accessibility and safety will also be a top priority of the Corman/WR&A Team and we are committed to providing a safe pedestrian environment during and after construction. With high volumes of pedestrian and vehicular traffic, controlling pedestrian movements along and across the roadway will be a challenge. During construction, a safe pedestrian corridor will be continuously established as construction progresses for pedestrians to access locations within and outside the project limits. Strategies to accommodate pedestrian traffic during construction will be evaluated as part of our Transportation Management Plan (TMP), and will include clearly delineated pedestrian routes; oversight by our MOT/Traffic Manager and Pedestrian/Bicycle Coordinator, Rodney Hill, PE; communication with the public, community, and stakeholders; and safe and effective pedestrian traffic control. Rod will ensure temporary and permanent design elements meet current standards and policies and our MOT/Traffic Manager will correctly implement pedestrian routes in the field. Any changes to routes will only be enacted after review and approval. Additionally, the Corman/WR&A Team will observe pedestrian behavior during construction and adapt pedestrian traffic control devices to the extent practical to rectify any unintended pedestrian traffic patterns that develop to improve compliance with installed accommodations.

The Corman/WR&A Team will provide visibility, signing, markings, lighting, and APS/CPS signalized crossings per Sections TC 3.09 and 3.12 and other applicable sections of the RFP. Special attention will be paid to the requirements and guidance of SHA's "Accessibility Policy and Guidelines for Pedestrian Facilities along State Highways – 2010, SHA's MD-MUTCD", the Americans with Disabilities Act Accessibility Guidelines, and the desires of the MD 4 Community Task Force.

PROJECT GOAL #3 - PROVIDE A SAFE AND ACCESSIBLE BICYCLE FACILITY

Understanding: To meet SHA's Bicycle Policy and Design Guidelines - 2013 and stakeholders' desires, provide on-road and off-road bicycle facilities throughout the MD 4 project limits, including accessible connections to existing bicycle facilities within the public right-of-way. Bicycle facilities will primarily consist of a 10' shared-use path along the NB roadway, and continuous on-road bicycle lanes along the NB and SB roadways through the marking of shoulders and the provisions of bicycle pocket lanes (5' minimum) adjacent to right-turn lanes and acceleration lanes.

Approach: As another road user of the facility, bicyclists will be accommodated during and after construction is completed. Maintenance of traffic plans will provide safe and efficient passage of bicycle traffic through or around construction zones during construction. Strategies to accommodate bicycle traffic during construction will be evaluated as part of our Transportation Management Plan (TMP) and will include clearly delineated bicycle routes; oversight by our MOT/Traffic Manager and Pedestrian/Bicycle Coordinator Rodney Hill, PE; communication with the public, community, and concerned stakeholders; and safe and effective traffic control.

Rod will ensure temporary and permanent design elements are compliant and our MOT/Traffic Manager will correctly implement bicycle routes in the field. Any changes to routes will only be enacted after review and approval. Additionally, the Corman/WR&A Team will observe bicycle traffic behavior during construction and adapt to the extent practical, traffic control devices to rectify any unintended bicycle traffic patterns that develop to improve compliance with the installed accommodations.

The completed facility will incorporate on-road and off-road bicycle facilities meeting or exceeding where feasible, the contract requirements outlined in TC 3.09.09 and other applicable sections of the RFP. Each facility will incorporate signing, markings, and, if required, lighting in conformance with TC Section 3.12. The facility will adhere to the requirements and guidance of SHA's "Bicycle Policy and Design Guidelines", SHA's Policy on Marked Bicycle Lanes, and AASHTO's "Guide for the Development of Bicycle Facilities", and will accommodate the MD 4 Community Task Force's desires to the fullest extent practical.

PROJECT GOAL #4 - PROVIDE MEASURES FOR TRAFFIC CALMING AND INCREASED DRIVER AWARENESS

Understanding: The current roadway geometrics along MD 4 entices drivers to travel at speeds for which the roadway was originally designed, a controlled access highway, posted at 55 mph. However, as development has occurred, corridor characteristics have changed, while the roadway has not. This change has generated safety issues and community concerns. As a result, SHA and the MD 4 Community Task Force want to provide a safe and efficient transportation facility for all road users (i.e., a Complete Street).

Approach: To address roadways where motorists tend to travel at higher than desirable speeds, traffic calming treatments, such as speed humps, chicanes, curb bump outs, etc., can be employed. However, many of these measures are not practical on state highway arterials. For this project, SHA is proposing a reduced curbed roadway section. Installing curbs and reductions to a roadway's typical section are proven strategies to alter driver behavior, including speed. The proposed reductions to the typical section when compared to a standard arterial include reduced left shoulder (2' vs. 4'); reduced travel lanes (11' vs. 12'); and reduced right shoulder (8' vs. 10'). In addition, elements, such as grass or hardscaping, will be added which can also have a calming effect. The proposed reduction in typical section and the other proposed enhancements will aid in calming traffic and support SHA and the community's goal of providing a safer facility for all users by allowing SHA to implement the FHWA approved roadway classification change and reducing the posted speed limit to 45 mph.

In addition to calming traffic, increased driver awareness to all facility users will be important for project success. To enhance driver awareness, the Corman/WR&A Team's approach will leverage preventive principles of safety: **Engineering, Education, and Enforcement.**

1. **Engineering** will focus on applying the right traffic engineering and roadway design principles when implementing the proposed improvements.
2. **Education** will focus on coordinating with others to inform facility users, particularly the local community, and encourage them to use the facility safely and in compliance with the intended design.
3. **Enforcement** during and after construction as needed to heighten awareness and increase compliance.

The Corman/WR&A Team will coordinate closely with SHA, the local community, the MD 4 Community Task Force, MD State Police, Prince George's County Police Department, and other stakeholders to discuss, evaluate and implement measures which steer towards success.

PROJECT GOAL #5 - PROVIDE A SAFE FACILITY AND MAINTAIN MOBILITY FOR MOTORISTS

Understanding: The safe and efficient movement of motorists through active work zones and on SHA's roadway network is a principal mission of SHA. Regarding this project, vehicular traffic, including bus transit,

pedestrian, and bicycle users, must be accommodated safely and efficiently during and after construction. Due to the high pedestrian traffic and current safety issues within this section of MD 4, a heightened focus will be on the interaction of pedestrians and vehicles during and after construction while moving vehicles, pedestrians, and bicyclists along MD 4, ensuring continuous access to adjacent properties and transit stops, and maintaining user and construction personnel safety.

Approach: Safety is one of seven core values at Corman. It is the top priority of corporate management and every job-specific team. Our approach is to implement proactive and preventative measures to keep the community, motorists, and every employee safe.

During construction, the Corman/WR&A Team will evaluate work zone risks and strategies to mitigate them through transportation management strategies, such as an effective Transportation Management Plan (TMP); an Incident Management Plan (IMP); an experienced and knowledgeable MOT/Traffic Manager; communication with the public, community, and stakeholders; and safe and effective traffic control, including advanced and variable message signing. The maintenance of traffic design will be in conformance with the RFP, including permitted lane closures, and will be coordinated with adjacent projects, including the I-495/Suitland Parkway and the MD 458 Resurfacing projects, for the safe and efficient passage of motorists.

The Corman/WR&A Team will minimize traffic shifts that require shifting temporary markings to minimize the occurrence of “ghost” markings during construction. To decrease the potential for drivers speeding through the work zone, police and speed camera enforcement will be encouraged. Additionally, we will encourage the permanent reduced speed limit along this section of MD 4 be introduced prior to construction with advanced warning signs and other advisory outreach methods, such as web-based and social media options. Temporary concrete barrier will be used to the maximum extent practical to provide a safer work zone for drivers and construction personnel. Construction deliveries will be made to the maximum extent practical during off peak hours. Enforcing safe pedestrian access through the work zone will require special attention. During our site visits, many pedestrians were noted crossing MD 4 mid-block or between the signalized intersections. Safe pedestrian access will begin with a maintenance of pedestrian traffic plan that takes into account the existing pedestrian traffic and provides safe access during construction.

In addition, the Corman/WR&A Team will work with SHA and the Prince George's County Police Department on a pedestrian education program in the surrounding community. Mitigation strategies during construction include clear delineated pedestrian pathways, placing orange construction fencing in the median, and additional guide signage for pedestrians and signs to warn motorists at heavy pedestrian crossings. We will observe vehicular, pedestrian, and bicyclist behavior during construction and adapt the traffic control devices and signage to coordinate with any non-conforming patterns that develop.

For the completed project, the Corman/WR&A Team will design the improvements employing sound traffic engineering and roadway design principles to safely and efficiently move vehicles, pedestrians, and bicycles on an Urban Other Principal Arterial in an area of dense residential and commercial development with high pedestrian activity. We will meet contract requirements, including the permanent reduced speed limit, and will complete the design and construction in conformance with FHWA, AASHTO, and SHA standards, criteria, policies, and guidelines, and other best practices. Special attention will be paid to the areas where vehicles, pedestrians, and bicyclists interact. In addition to the reduced posted speed limit, vertical curbs, and reduction in shoulder widths, additional or special signage, markings, lighting, buffers, etc. will be employed to enhance awareness and reduce potential safety issues. Traffic calming and driver awareness measures will be evaluated and implemented as deemed appropriate as discussed above.

PROJECT GOAL #6 - EASE OF MAINTENANCE

Understanding: The proper design and construction of all project elements is a necessity to reduce future maintenance costs and for maintenance personnel to access and perform maintenance work safely.

Approach: The Corman/WR&A Team members have a longstanding history of delivering projects that are maintainable. During design reviews, we will review material for compliance with SHA standards, low maintenance cost, replacement availability, and maintenance access. We understand that for projects, such as MD 4, “hot button” maintenance issues typically include pavement, landscaping, drainage, and debris collection. As with any flexible pavement design, it will be critical to work with the SHA’s Office of Materials and Technology (OMT) to ensure that the pavement design minimizes the need for long-term maintenance.

Projects such as this one with a significant landscaping component, must consider the impacts of plantings on the proposed improvements. For example, we will ensure excessive long-term pruning is not necessary to avoid impacting road users and so root systems do not result in damage to project improvements. In planted areas, plants will be spaced to accommodate mowing equipment. In addition, we will propose no-mow seed mixes instead of turfgrass in areas difficult to access with mowing equipment and low-maintenance plantings that meet the project’s aesthetic and reforestation/re-vegetation goals. Finally, maintenance of drainage elements, which is closely related to debris management, will be carefully considered. Corridors, such as this one tend to concentrate trash at drainage components and can be significant maintenance issues. It may be advantageous to implement low-cost trash racks on roadway inlets feeding the SWM BMPs allowing easier, roadside cleaning without the need to access the BMPs.

Additional Project Goals: The Corman/WR&A Team has taken a further step and identified these additional project goals, which we will attain or exceed:

ADDITIONAL GOAL #1 - MINIMIZE ENVIRONMENTAL IMPACTS

Minimizing environmental impacts is a priority on all SHA projects. On this project, the Corman/WR&A Team will also make reducing impacts to forest/trees, waters/wetlands, and the M-NCPPC park a priority. Minimizing impacts begins with a complete understanding by design and construction staff of the resources along the corridor and the avoidance and minimization techniques available. **OUR APPROACH:** We will continuously monitor/track impacts as the project progresses.

ADDITIONAL GOAL #2 - PROJECT COMPLETION ON SCHEDULE AND ON BUDGET

Through proactive management and tracking of design and construction by our experienced management team, we will ensure the project remains on schedule and within budget. **OUR APPROACH:** We will quickly address unforeseen issues and employ mitigation and recovery strategies to minimize schedule and/or budget impacts.

ADDITIONAL GOAL #3 - PROVIDE A HIGH-QUALITY DESIGN AND CONSTRUCTION PRODUCT

A cornerstone of the Corman/WR&A Team’s approach on any project is to provide the “right” design and construction staff equipped with the training and experience to successfully complete the project. **OUR APPROACH:** Through partnering (both internally and externally with SHA and stakeholders), we will foster open, efficient, and effective communication and provide opportunities to bring value through brainstorming, value engineering, design development sessions, constructability evaluations, and information sharing. Our QA/QC Managers, Stephan Marcella (construction) and Brian Riffel, PE (design), will ensure work is completed per the RFP and applicable laws and regulations, and is well coordinated, constructible, and maintainable.

ADDITIONAL GOAL #4 - AN AESTHETICALLY-PLEASING PROJECT

The Corman/WR&A Team prides itself in providing aesthetically-pleasing and context-sensitive projects and has won several awards for our efforts. One of the primary keys to an aesthetically-pleasing final product is sustainability, which is closely tied to our approach to minimizing maintenance described above. **OUR APPROACH:** We will create a product that is as visually appealing three years from completion as it was three months from completion.

ADDITIONAL GOAL #5 - SEAMLESS UTILITY COORDINATION

OUR APPROACH: The Corman/WR&A Team, led by our Utilities Coordinator, Dale Kniffin, will work with utility owners during design and construction. During design, we will identify potential impacts early and engage utility owners to develop cost-effective solutions. Continuous coordination with utility owners and an active integration of design and construction personnel throughout the project will ensure successful integration of all project elements. Should unforeseen issues arise, we will investigate and work with utility owners on cost effective and efficient solutions that minimize schedule impacts.

ADDITIONAL GOAL #6 - EQUAL OPPORTUNITY AND NON-DISCRIMINATION THROUGHOUT THE PROJECT

The Corman/WR&A Team is committed to providing equal opportunity and non-discrimination through strict enforcement of our current no-discrimination policies. We are committed to providing opportunities for small and disadvantaged businesses. We continually meet or exceed goals set forth on our contracts and have well established relationships with local DBE/MBE firms. Corman/WR&A Team members support non-discrimination in all company-related business every day.

B. SIGNIFICANT PROJECT ISSUES AND RISKS FACING THE CORMAN/WRA TEAM AND SHA

A detailed discussion of Risk Management (including mitigation strategies) included in **Section 2.09.03 Project Management - Section A** of our Proposal supplements the following write-up and should be included by reference herein.

The Corman/WR&A Team understands that the project's significant issues and risks are those with the greatest potential to impact the safety, schedule, permit compliance, or budget. To mitigate risks, the Corman/WR&A Team will employ a "Risk Register" which includes a formal list of identified risks, potential impacts, and mitigation strategies, and will employ this five-step risk management approach:

1. **Identify** – names the risk, determines cause and effect, and categorizes it;
2. **Assess** – assigns probability, severity of impact, and determines response;
3. **Analyze** – quantifies severity, determines exposure, establishes tolerance level, and determines contingency (applicable during preliminary design and pricing);
4. **Manage** – defines response plans and actions, establishes ownership, and manages response (after NTP); and
5. **Monitor/Review** – monitors/reviews/updates risks, monitors response plans, updates exposure, analyzes trends, and produces reports (after NTP, during design and construction)

The Corman/WR&A Team has reviewed the RFP package, visited the site during various weather and traffic conditions, collectively discussed the major risks, and has identified the most critical risks as follows:

Maintenance of Traffic: Providing a safe work zone for all users is a key risk. The Corman/WR&A Team will develop an effective TMP and MOT plans during design to be used throughout construction to maintain the

facility user safety; construction personnel safety; and to ensure continuous access to adjacent properties and transit stops. For additional information on our approach, see our discussion under Project Goal #5.

Utility Relocations and Coordination: Utility relocations and coordination are another key risk factor. The Corman/WR&A Team will coordinate the utility relocations. Dry utilities requiring relocation will be performed by the affected utility. For these utilities, the risk is in working with the utility owners so that they can design and relocate affected utilities to meet the project schedule. Should they not meet the schedule, Corman has team members to design and/or construct the improvements for them.

Wet utility relocations will be designed and constructed by the Corman/WR&A Team. For these utilities, the risk is in working with the utility owners to obtain design approval. Other utility risks include unforeseen conflicts and unknown subsurface utilities.

Right-of-Way Acquisition: Right-of-Way (ROW) acquisitions are to be provided by SHA based on the concept design plans; however, this carries the risk of insufficient ROW or easements needed for final design and construction resulting in potential schedule delays. A second risk is that NTP is scheduled prior to all ROW being cleared. Construction cannot proceed on properties where ROW has not been acquired. During design, the Corman/WR&A Team will complete the design to the fullest extent possible to stay within available ROW and easements and sequence construction so that areas with extensive ROW acquisitions are separated so that potential delays do not impact the construction schedule. The Corman/WR&A Team understands that special design and construction techniques and flexibility may need to be employed.

Impacts to Stakeholders and Education/Awareness of Facility Users: To maximize safety, avoid disruptions, minimize inconvenience, and meet community needs, the Corman/WR&A Team will continue the MD 4 Community Task Force coordination and assist SHA to develop/implement an effective community outreach plan throughout design and construction. We will frequently communicate with stakeholders, such as M-NCPPC; WMATA; adjacent property owners; Prince George's County DPW&T, Executive Office, Council, Schools, Public Safety, and Transit; FHWA; and FAA so their concerns are heard and their needs are met. The Corman/WR&A Team will also implement measures to improve motorist awareness that are reasonably requested and we will coordinate with SHA and stakeholders with a pedestrian education program in the surrounding community to educate them on the safe and effective means for using the facility during and after construction. For additional information on our approach, see our discussion under Project Goals #1 and #4.

Unforeseen Conditions: Unforeseen conditions encountered during construction carry the risk of significant delays. The Corman/WR&A Team understands that the required construction may change based on geotechnical (groundwater and subsurface) conditions encountered, the condition of the existing pavement, condition of existing drainage structures, or unknown utilities. To mitigate this risk, we will perform sufficient field investigations/inspections, soil borings and pavement cores, and utility identification and test pitting during design. In addition, the Corman/WR&A Team has experienced construction personnel to quickly identify and communicate unforeseen conditions and come to a solution with our designer and SHA as needed.

Obtaining Permits: A major design risk is acquiring environmental permits and approvals for the project. The Corman/WR&A Team is knowledgeable and understands the process to obtain permits/approvals. The key to securing them timely is to understand and identify all resources early and create an outline showing the involved agencies and the permits/approvals required. We start off with a Kickoff meeting with SHA and effected resources agencies for a complete understanding of permit requirements and we will maintain this level of communication from beginning to end. From a critical path standpoint, the SWM/ESC permit from MDE's Plan Review Division will be the most important.

Impacts to Existing M-NCPPC Park: The Corman/WR&A Team will prepare a design that minimizes impacts to the existing M-NCPPC park on the north side of MD 4 at Walters Lane. Access to the park will be maintained throughout construction. We will coordinate with M-NCPPC during design and construction to keep them informed.

Impacts to Forest Stands, Trees, Wetlands, and Waterways: The Corman/WR&A Team will work to minimize environmental impacts beyond those shown in the approved Joint Permit Application and Reforestation Permit. If any modifications are required to these permits, coordination will be made directly with SHA's Environmental Programs Division, Landscape Architecture Division, and Landscape Operations Division, as applicable, for all submittals.



C. UNDERSTANDING THE PROJECT SCOPE

The overall scope of the MD 4 project consists of the design and construction of continuous pedestrian facilities along MD 4 (Pennsylvania Avenue) between Forestville Road and MD 458 (Silver Hill Road) in Prince George's County. The project includes constructing a pedestrian sidewalk along the SB lanes of MD 4 and a shared-use path along the MD 4 NB lanes. Portions of MD 4 outside pavement along the NB and SB lanes are being removed to incorporate pedestrian facilities and stormwater management facilities. Primary scope includes:

- Delivering MD 4 corridor improvements by reducing the existing pavement to provide 11' travel lanes, 2' foot median shoulders, and 8' outside shoulders, including on-road bicycle accommodations. The existing outside open section will be closed with curb and gutter along the outside shoulder.
- Providing continuous pedestrian facilities and off-road bicycle accommodations in the form of a 5' sidewalk along the SB roadway and a 10' shared-use path along the NB roadway.
- Providing pavement rehabilitation improvements, intersection improvements, new traffic signals, new closed storm drainage system, new stormwater management facilities, and other safety improvements.

The Corman/WR&A Team will provide the following design and construction services to fulfill the project scope per the RFP and all application laws and regulations: roadway; retaining walls (if applicable) and miscellaneous structures; hydraulics/hydrology design, drainage, stormwater management (SWM), and erosion and sediment control; traffic engineering; temporary and permanent roadway signalization, lighting, and signing and pavement markings; maintenance of traffic and traffic management plan preparation; geotechnical and pavement design; roadside landscape planting, SWM landscape planting, and reforestation; utility coordination (wet and dry utilities) and relocation design/construction (wet utilities); additional data collection, including supplemental surveys, subsurface investigation, and utility test pits; environmental investigations and documentation; agency permitting, approvals, and modifications; required forest, wetland, and Waters mitigation or remediation; FAA compliance; community relations; SWM As-Built Certifications; engineering studies and reports; maintenance of project site; general coordination and partnering with SHA and others; and other services as may be needed to successfully complete the project and meet the established Project Goals.

D. UNDERSTANDING ESTABLISHED PROJECT GOALS

A detailed discussion on our understanding and approach to successfully delivering the project by meeting/exceeding the established Project Goals is included under **A. Approach to Successfully Delivering the Project By Meeting/Exceeding the Established Project Goals** above.



Project Management

2.09.03 PROJECT MANAGEMENT

A. PROJECT MANAGEMENT PLAN

Communications Management: The key to success is communication between the parties involved: SHA, Corman/WR&A Team, review and regulatory agencies, and stakeholders. The Corman/WR&A Team will have internal weekly meetings during design with key construction and design staff. A three week look-ahead schedule will be developed and tracking sheets utilized to monitor design, design issues, Right-of-way (ROW), utility impacts, and approvals.

During design, constructability reviews are crucial and will be performed by all parties to keep ahead of any existing field changes. Also, the Corman/WR&A Team, subcontractors, and suppliers will review the plans to maximize cost effectiveness, material availability, and constructability. Construction Managers will provide formal review comments to the design team and comments and responses will be tracked through our Electronic Data Management System (EDMS). The Corman/WR&A Team will internally review submittals for constructability and compliance with quality metrics before forwarding to SHA for review/approval.

Once construction begins, our three week look-ahead schedules will be updated weekly, discussed at regular schedule meetings, and shared with SHA. To stay on track, the schedule will be constantly reviewed and maintained. Any deviations from the approved schedule will be discussed as part of the monthly partnering process. Mitigation and recovery solutions will be identified and initiated at the appropriate meetings discussed below. At our internal weekly meetings, issues will be identified through the following tracking aids:

- ROW Acquisition Tracking spreadsheets showing progress of properties being acquired by SHA;
- Utility Protection Tracking spreadsheets during design and construction indicating location of utility impacts, mitigation status, responsibility of design relocation, including status, sorted by utility;
- Permit Progress Tracking spreadsheets showing permit requirements and commitments, sorted by review agency;
- Review and Approval Tracking spreadsheets of design and construction submittals;
- Shop Drawing Status Tracking spreadsheets;
- Material Submittal and Delivery schedules;
- Non-Conformance Logs by QC for design and construction;
- RFI Logs

Communication with SHA: Communication between the Corman/WR&A Team, SHA, and stakeholders throughout design/construction is crucial to project success. Key Corman/WR&A staff and subcontractors will attend progress meetings with SHA. A list of involved parties will be developed upon project commencement and will then be invited to progress meetings, as applicable. Distribution protocols will be established at the initiation meeting and maintained throughout the project.

The Corman/WR&A Team will follow SHA's milestone review process throughout design and permitting. We will provide SHA with notice of pending submissions 14 days in advance, or as agreed upon at the start of the project. Transmittals, including design submittals, shop drawings, and RFIs will be recorded and tracked. These will be linked with the CPM schedule to generate status update reports communicating the need for approvals and keep the project moving.

There will be informal meetings with SHA to discuss design issues, utilities, ROW, MOT, design solutions and proposed details, construction means and methods, sequencing and strategies to minimize impacts to the construction schedule. These discussions may be incorporated into the regular weekly or monthly meetings, or held separately. To expedite the regulatory process, with SHA's concurrence, we would also invite the

appropriate agency reviewer. This eliminates “surprises” during subsequent formal reviews. Formal submittals would be made per SHA policy through ProjectWise with hard copies provided.

Partnering: Corman partners on all of our projects. True partnering is the key to success and is particularly proactive on design-build projects. Sitting face-to-face with counterparts and having open, honest discussions resolves concerns, even before they actually become issues. The Corman/WR&A Team will initiate formal partnering starting at Notice of Intent to Award. At that time, a Partnering Facilitator will be identified, a tentative date for partnering will be selected, and a tentative attendance list will be developed that includes representatives from SHA, design, construction, utilities, and permitting agencies.

One partnering tool is an Issue Resolution Matrix stating the methods, individuals, and timeframes for escalation, should unforeseen issues arise. This resolves issues quickly at the level most familiar with the site or design. We find that those closest to the issue can come to a quick and efficient resolution without project delays. Having this matrix in place early on empowers our design leaders and field staff in making decisions, keeps the project moving forward, and minimizes risk to the State, design builder, and public.

Public Relations: The Corman/WR&A Team knows the importance of keeping stakeholders informed on progress and potential impacts. Our Public Relations/Outreach Coordinator, Odessa Phillips, PE of Assedo Consulting, LLC will be the liaison *between* the Corman/WR&A Team and SHA for outreach efforts and with project and property stakeholders and the public to facilitate communication during design and construction. Odessa, a Prince George’s County resident, worked with Corman in the same capacity on the ICC-A. The outreach program will be specific to the project and stakeholder needs including; an SHA website, e-mail, mailers, 1-800 number, etc. A close relationship between SHA and Corman/WR&A for a steady stream of information to stakeholders is vital to project success. For example, since some of the proposed locations are literally in homeowners’ backyards, it is imperative to communicate the construction schedule to keep residents informed. Equally important will be to hold regular meetings with the tenant associations and commercial establishments adjacent to the roadway. In addition to “*Pardon our Dust*” meetings prior to construction and major MOT changes, Portable Variable Message Signs will communicate upcoming work zones to motorists, pedestrians, and bicyclists. Communication with community and public officials will be through the SHA.

Coordination Management: The key to success is communication and coordination between the many parties involved: SHA, Corman/WR&A Team, review agencies, utility owners, and stakeholders. This is based upon open and honest communication, frequent meetings, and updates. Construction sequencing will be a constant topic at the meetings to review the proposed sequence, especially for the impact to pedestrians. Our site access and storage/laydown areas will also be reviewed for compatibility with the proposed sequencing. The Corman/WR&A Team will hold the following internal weekly meetings during design and construction:

- **Inter-disciplinary Design Review Meetings**, led by the Design Manager and Design/Construction Coordinator to coordinate design disciplines;
- **Design Constructability Reviews**, led by the Design/Construction Coordinator and Design Manager, especially for MOT (vehicle and pedestrian), ESC, utility relocations, and access;
- **Pre-application Meeting** with SHA and permitting agencies;
- **Weekly/Monthly Schedule Meetings** to review the previous period’s work and develop three-week, 30- and 60- day look ahead schedules;
- **Weekly Foremen Meetings** to discuss the schedule and coordination;
- **Morning Huddles** with crews to set the safety and production goals for the day;
- **Monthly Partnering Meetings** with stakeholders to resolve issues.

The Corman/WR&A Team will identify stakeholders with any pending/ongoing projects or sponsored events near the site and within the construction schedule. At the present time, the MD 4/Suitland Parkway Interchange Construction (PG6185170 and PG6185370) project and the MD 458 (Silver Hill Road) from MD 5 (Branch Avenue) to Walker Mill Road –Safety and Resurfacing (PG7865777) will be under construction during this project. If these projects impact our progress or theirs, the Corman/WR&A Team will immediately communicate with them to identify potential conflicts or impacts and work to find beneficial solutions.

Risk Management: The Corman/WR&A Team will employ the Construction Management Association of America (CMAA) endorsed approach to risk management through a “Risk Register” which includes a formal list of identified risks, potential project impacts, and mitigation strategies. A successful risk management process is robust because it considers risks throughout the project’s life and delivery processes. The team’s risk management process has already commenced, will continue throughout design/construction, and be dynamic as the team responds to changes in an organized and proactive way as issues unfold.

The Corman/WR&A Team will employ this five-step risk management approach:



1. **Identify** – names the risk, determines cause and effect, and categorizes it;
2. **Assess** – assigns probability, severity of impact, and determines response;
3. **Analyze** – quantifies severity, determines exposure, establishes tolerance level, and determines contingency (applicable during preliminary design and pricing);
4. **Manage** – defines response plans and actions, establishes ownership, and manages response (after NTP);
5. **Monitor / Review** – monitors/reviews/updates risks, monitors response plans, updates exposure, analyzes trends, and produces reports (after NTP, during design and construction)

Risk analysis begins during the Proposal stage. From experience on similar projects, the following are risks most likely to occur and have a major impact on schedule, quality, safety and costs:

- Indecision
- Inability to limit end-users to reasonable programming requirements
- Poor documentation on decisions made
- Poor flow of information and coordination among disciplines
- Minimal effort in clearly defining scope requirements

A detailed discussion of Significant Project Issues and Risks (including mitigation strategies) included in **Section 2.09.02 Project Understanding and Approach - Section B** of our Proposal supplements the following write-up and should be included by reference herein. The initially identified key risks are:

Maintenance of Traffic – Providing a safe site for workers, drivers, general public, pedestrians, and bicyclists will be the key risk on this project. There is always the potential for drivers not slowing down to match limited site distances and a reduced speed limit. To overcome this, advance signing and VMS Boards will be placed as required by actual field conditions. Barrels, concrete barriers or temporary impact devices will be installed to maintain a



safe roadway. Construction deliveries will be during off peak hours. Police enforcement will be requested, as well as speed camera enforcement to encourage motorists to drive responsibly. Enforcing pedestrians to follow the rules will require special attention. During our site visits, we noticed many pedestrians crossing MD 4 mid-block or between the signalized intersections and new mid-block signalized crosswalk. To resolve this, our suggestion here is to place orange construction fencing in the median and increase police enforcement.

Utility Relocations and Coordination – Utility relocation and coordination is also typically one of the schedule busters on any construction project. For this project, utility coordination is the responsibility of the Design Builder, with all dry utilities relocated by the affected utility and the Design Builder designing and constructing associated wet utility impacts. We have successfully met this challenge in the past through:

- Assigning a utility task force to schedule/coordinate utility relocation design and construction
- Holding regular coordination/partnering meetings with the affected utilities
- Redesigning our improvements to minimize utility impacts or relocations, whenever possible
- Making identifying and resolving utility issues a priority during our initial design phase to remove the relocations from the critical path
- Being ready to perform the design or relocations for the dry utilities with in-house design or construction forces
- Discussing the utility status at all monthly, progress, and partnering meetings

Right-of-Way (ROW) – ROW clearance is to be provided by SHA, however issues always seem to arise during this process. The NTP is scheduled to be provided prior to completing the ROW acquisitions. Construction cannot begin in areas where ROW has not been cleared which requires adjusting the sequence of construction. We understand that flexibility is required to shift the sequencing and relocate resources, as appropriate, to meet the ROW clearance progress.

Impacts to Stakeholders and Education/Awareness of Users of the Facility - To maximize safety, avoid disruptions, and minimize inconvenience to stakeholders, the Corman/WR&A Team will continue the MD 4 Community Task Force coordination and maintain a communication plan throughout design and construction. We will frequently communicate with stakeholders, such as M-NCPPC; WMATA; adjacent property owners; and Prince George's County DPW&T, Executive Office, Council, Schools, Public Safety, and Transit. This plan will begin during design to provide stakeholders with a venue for their input in the design and construction. It will continue during construction and include newsletters highlighting progress, traffic switches, lane closures, and coordination on temporary transit stop accommodations. The Corman/WR&A Team will coordinate with SHA, Prince George's County, and others on a pedestrian education program in the surrounding community to inform and educate local residents on the safe and effective means for using the facility during and after construction.

Unforeseen Conditions - Unforeseen conditions encountered during construction carry the risk of significant delays. The Corman/WR&A Team has experienced construction personnel to quickly identify and communicate unforeseen conditions and come to a solution. We understand that the required construction may change based on geotechnical (groundwater and subsurface) conditions encountered, the condition of the existing pavement, or unknown utilities. To mitigate this risk, we will perform sufficient soil borings and pavement cores and utility identification and test pitting during design.

Obtaining Permits – A major risk is acquiring the environmental permits and approvals. The key to securing them in a timely manner is to understand and identify resources early on and create an outline showing the involved agencies and the relevant permits/approvals. We will begin with a Kick-off meeting with SHA and the affected resource agencies for a complete understanding of permit requirements and maintain this level of

communication from beginning to end. From a critical path standpoint, the SWM/ESC permit from MDE's Plan Review Division will be the most important. Corresponding to our phased submittals, we will coordinate SWM and ESC designs and reviews between MDE and SHA-HHD from Notice of Award to Project Closeout.

Impacts to Existing M-NCPPC Park - Obtaining approval from M-NCPPC on impacts to an existing park on the north side of MD 4 at Walters Lane is a risk. The Corman/WR&A Team will coordinate with M-NCPPC during design and construction to ensure they are informed regarding the project and impacts to the park.

Impacts to Forest Stands, Tress, Wetlands, and Waterways - The Corman/WR&A Team will work to minimize environmental impacts beyond those in the approved Joint Permit Application and Reforestation Permit. If any modifications are required to these permits, coordination will be made with SHA.

Design and Construction Management: Design-Build unites the contractor and designer more than just contractually. Corman has partnered with WR&A on numerous design-build projects. This year alone, we have been selected to work on three design-builds totaling over \$90 million for VDOT, DC Water and Hampton Roads Sanitation District in Newport News, Virginia. We will use this cemented working relationship to our advantage. Because we already understand each other's strengths and abilities, we will use our seasoned professionals/resources to successfully deliver this project. The Corman/WR&A Team will be led by our Design-Build Project Manager (DBPM) and function as an **integrated entity** that fosters innovative design and construction techniques that reduce the cost and time to complete the project. Establishing project controls and frequent task meetings to reduce subsequent delays/rework, streamline reviews, and eliminate potential construction field issues guarantees a superior project on time/budget. Beginning at the proposal and bid phases and carrying forward, our DBPM's daily involvement ensures comprehensive interaction between construction managers/designers.

Immediately after notice of apparent successful proposer, weekly design meetings begin at the designer's office with key design, subcontractors, and construction personnel to promote innovation and constructability that minimizes field changes during construction. Chaired by the DBPM and D/CC and attended by the Design and Construction Managers, these meetings move to the field once initial designs are completed and approved, and construction has commenced. Once the majority of the design is complete, meetings take place monthly, serving not only as design progress meetings, but also as an opportunity for the designer to keep current with construction progress. During construction, WR&A will provide post-design construction services, such as responding to RFIs, design clarifications, and field design changes. One of the many design-build benefits is the proactive collaboration between contractor and designer that quickly gets issues on the table and resolved.

Additional fully-integrated strategies include:

1. Design Phase:

- ✓ Corman will regularly visit WR&A's office to ensure designs are compatible with the construction means, methods, phasing, and environmental commitments, while reducing construction and future maintenance costs.
- ✓ The Corman/WR&A Team, led by the DBPM, will conduct internal weekly meetings with key construction and design staff. Tracking sheets will follow progress of permits, utilities, ROW, design disciplines, as well as environmental and design reviews.
- ✓ Corman constructability reviews of design, especially for ESC and MOT.
- ✓ Inter-disciplinary design reviews before milestones to coordinate design disciplines and construction staff.

2. Construction Phase:

- ✓ Daily Morning Huddles with crews to set safety, production, and quality goals.

- ✓ Weekly field staff meetings with team members to review three-week look ahead schedules and address design and permitting requirements, such as construction sequencing. These meetings will also resolve any unforeseen changes in field conditions.
- ✓ Weekly owner progress meetings to review and discuss submittals and progress payments.
- ✓ Monthly scheduling meetings to review CPM progress.
- ✓ Monthly partnering meetings with SHA and applicable stakeholders to resolve any issues.

Quality will be addressed by developing a Project Procedures Manual and Quality Control Plan for design and construction as soon as NTP is received.

Consistency and quality in construction starts with consistent plans and specifications in the design phase. A review of the design plans by independent senior level design staff and key construction personnel will occur prior to each submission to confirm plans are constructible and meet contractual, procedural, and regulatory requirements. WR&A will review shop drawings for consistency between subcontractors and to verify conformance with construction documents. Our Design Quality Control Manager will ensure design quality reviews are being performed and will periodically review constructed elements for compliance with the intent of the design and the contract.

Periodic QC Plan reviews will determine how well the plan meets the quality goal. Updates will be issued as needed. The Corman/WR&A Team's Plan is a controlled document to be distributed to Corman and WR&A staff, subcontractors, sub-consultants, and vendors.

Our Construction QC Plan will assign an on-site project engineer to track plan/specification compliance. Our goal is not to rely on the SHA, or consultant inspectors hired by SHA, but to have the Corman staff be the first line of defense on errors in the field, prevent rework, and maintain schedule and budget. Pre-activity and hold points will be established for the different elements of work. For example, a project engineer or superintendent will be assigned to check bar placement in the forms prior to concrete pours. For MOT, another project engineer or superintendent will regularly drive the site during the day and before leaving at night to ensure the clarity of MOT signing and barrier, and barrel placement that guide drivers through the work zone. They will also be charged with ensuring the MOT devices are clean, in good order, and meet standards.

Schedule Management: The Corman/WR&A Team developed a preliminary schedule that progresses work in a way that provides the earliest completion time to meet the important completion dates. We will mitigate exposure to weather elements and create a final schedule after award that minimizes disturbances to stakeholders, motorists, and pedestrians. Our schedule is structured in a logical sequence that can be used as an effective management tool.

Upon Notice of Award to the Corman/WR&A Team, WR&A will perform supplemental topographic surveys as required. The updated based topography will be used to prepare the initial design packages. We will meet with the utility companies to coordinate important relocations. Although the SHA's responsibility, the Corman/WR&A Team has already identified the key Right-of-Way (ROW) issues. Our team has extensive experience with mitigating and coordinating ROW issues should ROW clearance be delayed for any reason. Utility relocation by the utility owner has also been identified as an issue which could affect the schedule. Assigning a Utility Coordinator whose main role is to coordinate utility relocation and construction will facilitate staying on schedule. Our design engineering, submittal process, subcontract creation and execution, material procurement, and work plan formulations will start upon Notice of Award. Key to success is the sequence of construction and separating the project into discrete submittal packages described below.

The technical design submittals will be tailored to specific needs for efficient design and construction. Our work packages, which are divided into packages taking into account defined hold points in the schedule, such as ROW or permit approvals and a logical construction sequence of operations, such as roadway construction, traffic signal installation, and signing, pavement markings. Design packages to be submitted are defined as:

Initial design will ensure that the design meets the contract requirements and basic project configuration. This submission will show the design is progressing on schedule, existing field conditions are depicted properly, and coordination has been performed with the Administration, appropriate agencies, utilities, etc.

Semi-Final and Final Design will continue to complete the design as to confirm prior commitments, meeting the schedule, submission to approval agencies.

RFC Plans are 100% complete, approved and “Ready for Construction.”

Preparing action item lists after each meeting, assigning “issue advocates” to matters as they become known, and then giving them the tools and authority to solve it, is extremely successful in eliminating schedule or cost concerns. Assigning issue advocates and maintaining aggressive proactive application of the partnering principles and open communication, will enhance the desired partnership. The Corman/WR&A Team will call or visit stakeholders, permitting agencies, and utility companies, as soon as there is a question or issue. *Over the Shoulder* reviews will be the preferred method to coordinate as work progresses. One of the most important items in the Corman/WR&A Team plan is ensuring timely reviews and submittals by regular progress design, construction and Owner meetings. SHA staff and reviewers will be encouraged to join with us at our design and constructability review meetings to become a full team member, performing informal *Over the Shoulder* reviews, attending our task force meetings, and truly becoming our **Partner**. By doing this, our goal of “**No Surprises**” will be realized and the MD 4 project will be delivered on schedule and budget.

Change Management: During construction, unanticipated field conditions could be exposed that impact the “*Ready for Construction*” drawings. Immediately upon discovery, our design and construction leaders will uncover pertinent facts and come up with suggestions for resolution, regardless of who may responsible financially we will provide options for possible solutions. We will look to mitigate any delay in the schedule by re-sequencing construction activities and partner with SHA to manage and minimize any additional costs. Should changes to the “*Ready for Construction*” drawings be required, the DBPM will notify the SHA liaison and, if appropriate, notify the applicable permitting agencies. The Corman/WR&A Team will recommend a solution for SHA review or meet with staff to discuss options and jointly arrive at an environmentally and cost-effective solution. For routine or minor changes to the “*Ready for Construction*” drawings, a set of as-built drawings will be maintained in the project office and incorporated into the final as-built drawings. These final as-builts will show the actual final construction, including field directed changes.

The Project Procedures Manual and Quality Control Plans establish protocol and procedures for dealing with Requests for Information, Changes, and Non-Conformance Issues. WR&A will handle design or plan revisions resulting from contract changes. They will certify the design meets AASHTO and MSHA design criteria with an authority to issue plan revisions to satisfy the design criteria. All changes to “*Ready for Construction*” drawings will be signed off by the Engineer-of-Record. Changes made to “*Ready for Construction*” drawings will have the revision number noted on the plans and kept in ProjectWise. A separate folder of the revised CADD files will contain these revisions for future inclusion into as-built plans and specifications. The Corman Project Engineer will be responsible for document control of plans issued to the field personnel for construction.

Safety and Health Management

Public Safety: Maintaining public safety is critical and is a part of our safety program. Corman will provide

high-visibility orange safety fencing to separate the work zone from the pedestrians and in the median to discourage mid-block crossing of MD 4.

MOT will be per SHA's latest policies and procedures. Our experience working on SHA projects in the suburban Washington, DC area provides the Corman/WR&A Team with an appreciation of the MOT requirements and understanding of local traffic and pedestrian patterns. The goal is to minimize disruptions to existing traffic patterns and complete construction quickly and safely. We will provide access to local residences, facilities, and businesses during construction.

Worker Safety: Boasting an impressive 0.66 EMR rating and a recipient of ARTBA's 2010 Roadway Work Zone Safety Awareness Award for our training programs, Corman maintains a qualified Safety Department under the leadership of our Corporate Safety Director, Shawn Falvey, MS, CSP. With 25 years of experience as a construction worker, teacher, trainer and safety manager, Shawn will provide support for this project.

Corman's lead foremen, project engineers, superintendents, and project managers must maintain a current OSHA 10-hour Construction Hazard Awareness Program certification. We regularly hold CPR/First Aid classes and formal field and classroom training in fall protection, excavations (subpart P), confined space access, forklift, aerial lift, and crane operation.

We hold the jobsite management team accountable for safety. The superintendent, construction manager, and Safety Director will develop a **Site-Specific Safety Management Plan**. Particular attention will be on safety procedures for working in neighborhoods and risks associated with working near shopping and commercial areas with high pedestrian traffic. Corman and subcontractors must attend a safety orientation before starting work where jobsite-specific concerns, including access, will be highlighted, along with general workplace safety.

Corman requires compliance with Personal Protective Equipment (PPE) when working onsite. All personnel must wear steel toe shoes, vests, eye protection, gloves and hard hats at all times in the work area - **NO EXCEPTIONS**.

Corman requires immediate reporting of ANY safety incident occurring in or around the construction area verbally or by email to the Safety Department. It is the Construction Manager's responsibility to produce a "Written Incident Report" within 8 hours, which goes to regional safety manager and corporate safety director for immediate review and action. Within 24 hours, the Safety Department will issue a full detailed report with pictures, if possible, to corporate management. This may lead to additional updates to the site safety plan and measures to hold individuals accountable for violations of safety policies. Corman will immediately report all safety-related incidents to SHA officials and provide hard copies.

At the beginning of each project, Corman's Safety Department establishes relationships with local clinics and hospitals. We maintain "Grab-and-Go" packets in jobsite offices/supervisor vehicles with directions to the nearest emergency treatment center, as well as Corman policies and forms to treat injuries. A Corman representative will accompany the injured employee to the local hospital or clinic.

Site Visitor Safety: Site visitors, community representatives and SHA personnel will adhere to Corman's safety requirements. No visitors are permitted onsite without prior permission or escort. Corman will provide PPE for short-term visitors.

As indicated earlier, special attention will be paid to the unique nature of this project in an established residential / commercial area with high-volume pedestrian traffic.

B. DESIGN AND CONSTRUCTION SUMMARY SCHEDULE WITH SUPPORTING NARRATIVE

The Corman/WRA Team has thoroughly evaluated the RFP documents, visited the site, attended pre-proposal meeting, and had several working sessions among our construction and design teams. Through this progression, we developed a simplified solution to deliver the project through our Sequencing Plan. This narrative accompanied by our P6 Schedule explains how we will deliver a positive experience to SHA and the involved stakeholders. The project completion date is as shown in the RFP, which is August 30, 2017.

Project Milestones

Notice to proceed (assumed)	November 3, 2014
Issue RFC Documents	November 5, 2015
Final Project Completion:	August 30, 2017

Calendars

Three project calendars were used in the schedule and include:

1. **“5 Day Workweek w/ Basic Holidays”** – Based on five working days per week and is used for construction activities and includes holiday restrictions and anticipated weather days.
2. **“Winter Paving 2015/2016/2017”** – Based on a non-work period from December 22 through February 28 for weather dependent activities, such as asphalt paving.
3. **“Calendar Days”** – Based on seven days per week and is used for review periods.

Plan to Execute the Work

We plan to complete the design prior to commencing any construction, perform the construction in three (3) phases and complete the project on or before the Final Completion Date of 8/30/17.

Phase 1 – Construct Improvements along the Outside of the Roadways to include

- ✓ Install MOT
- ✓ Clearing, Grubbing, and E&SC
- ✓ Drainage and SWM
- ✓ Utility relocations
- ✓ Structures
- ✓ Roadway / Curbs / Guiderails
- ✓ Pedestrian Facilities
- ✓ Traffic signals and lighting
- ✓ Landscaping

Phase II – Construct Improvements to the Median

- ✓ Install MOT
- ✓ Clearing, E&SC
- ✓ Roadway / Curbs
- ✓ Pedestrian Facilities
- ✓ Traffic signals and lighting
- ✓ Landscaping

Phase III – Finishing's

- ✓ Mill and overlay
- ✓ Signing and striping
- ✓ Punch List / Clean Up

Construction is scheduled to take place with multiple crews with much of the work constructed simultaneously. Weekly scheduling and supervisory meetings with the Construction Manager, Project Engineer, Construction QC Manager, superintendents, foreman, and engineers will be held to establish the three-week schedules. Subcontractors will be involved in weekly scheduling meetings.

Schedule Recovery

The experience the Corman/WRA Team gained in working on similar projects will be critical to the timeliness of resolving design and construction hurdles as they occur. The Corman/WRA Team has successfully managed design on other jobs that enables critical activities, such as utility relocations and environmental permitting, to be prioritized and monitored with the overall design and construction progress accordingly. This team prides itself in solving construction and design issues rapidly without sacrificing quality. We will aggressively manage the project, allowing SHA to minimize its management and inspection resources required. Should any item on the CPM Schedule show unacceptable progress – *for any reason* – a schedule recovery strategy will be developed and implemented immediately with SHA's concurrence.

***OUR TEAM IS COMMITTED TO PROVIDING SHA A COMPLETED PROJECT
BY AUGUST 30, 2017.***

C. ORGANIZATIONAL STRUCTURAL

Approach to Design Build: Corman has been providing design-build services in Maryland to government agencies since 1998. Our local (Maryland, Washington, DC, and Virginia) design-build projects entail 14 projects including:

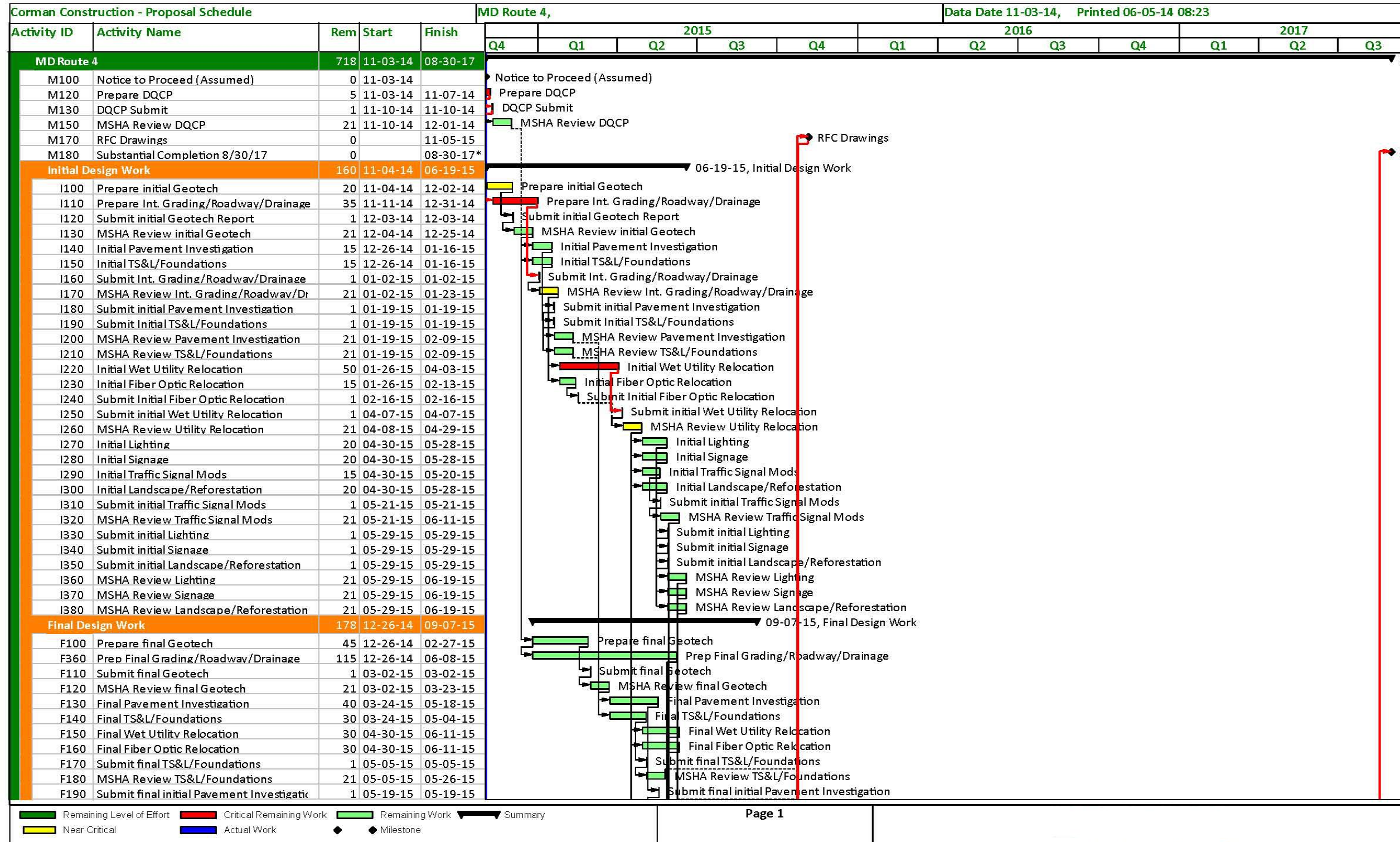
1. Hampstead By-Pass – SHA's first true Best Value procurement and SHA's first D-B that included structure design
2. ICC Contracts A & B – SHA's largest design-build projects to date completed on time and on budget.

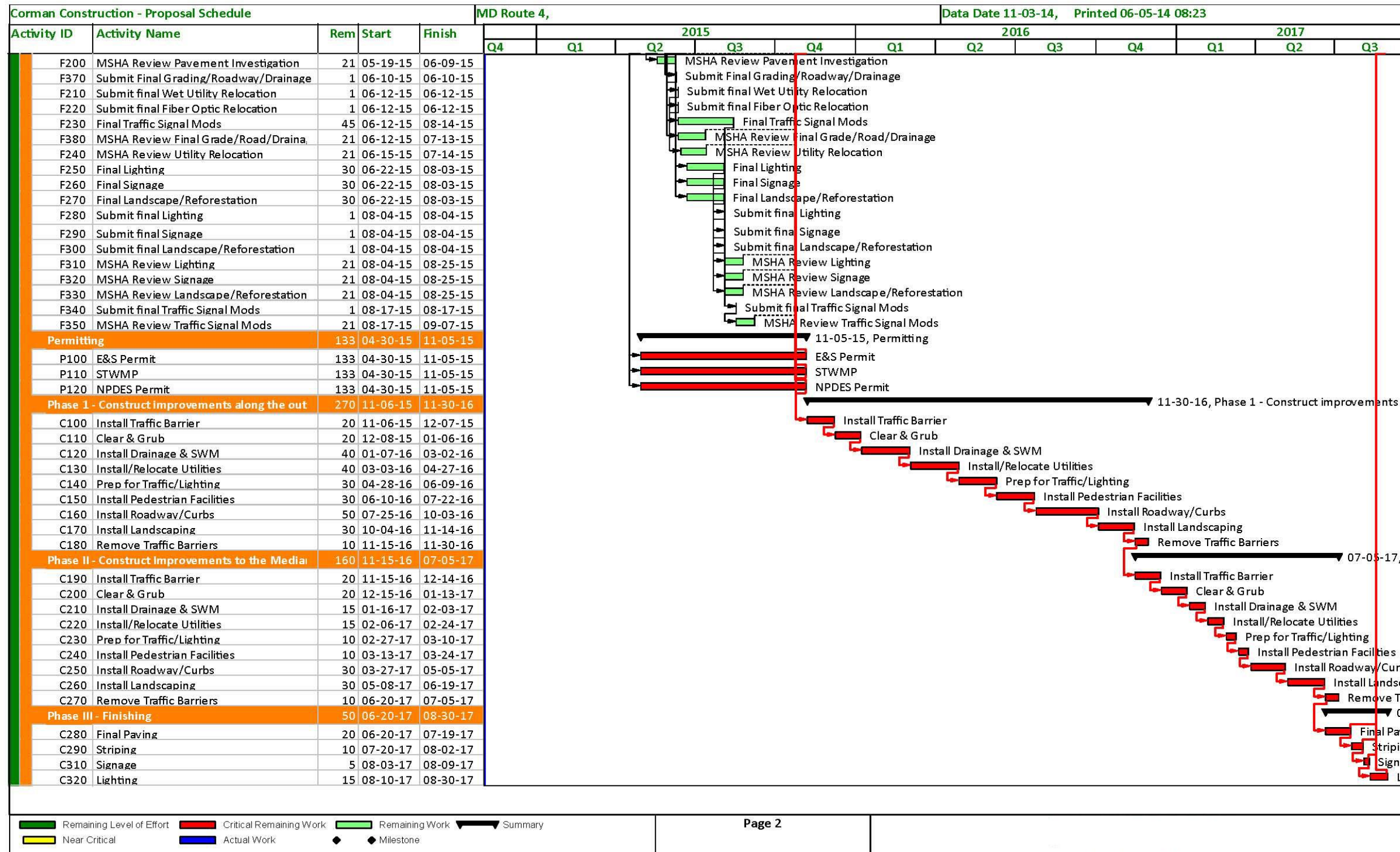
Additional design-build projects include streetscapes in Elkton and Bel Air in their central business district with extensive pedestrian traffic and potential impacts to local commercial establishments, in which proposed Construction Manager Stan Sutphin was the Construction Manager/Superintendent.

The key to a successful D-B project is choosing the right team members that share our mission for delivering quality projects on time and on budget utilizing innovative solutions. We strive to develop and implement innovative solutions that minimize:

- Risk –to the owner, Corman/WR&A Team, and general public
- Time – ensure on schedule completion
- Re-Work – for the designers and construction
- Public Impacts – be it pedestrian, commercial, residential, or vehicle
- Negative Conflicts or Issues arising out of hard firm stances

In addition to carefully choosing our partners and projects to pursue, our D-B philosophy includes Partnering as its cornerstone. As shown on our attached Form A-2's, we have received numerous partnering awards.





■ Remaining Level of Effort
 ■ Critical Remaining Work
 ■ Remaining Work
 ▬ Summary
■ Near Critical
 ■ Actual Work
 ◆ Milestone

C. ORGANIZATIONAL STRUCTURAL (CONTINUED)

The key attributes of partnering is 1) open and honest communication, 2) maintaining the decision responsibility at the lowest possible level, 3) enforcing the use of a decision tree, 4) putting the project success ahead of your own, 5) frequent and regular meetings, and 6) looking at issues from the point of view of all involved. These have been Corman's "SOP" since its founding over 93 years ago. Design-build thrives in this atmosphere of cooperation and timely issue resolution. Partnering:

Facilitates Communication
Reduces Rework
Improves Quality

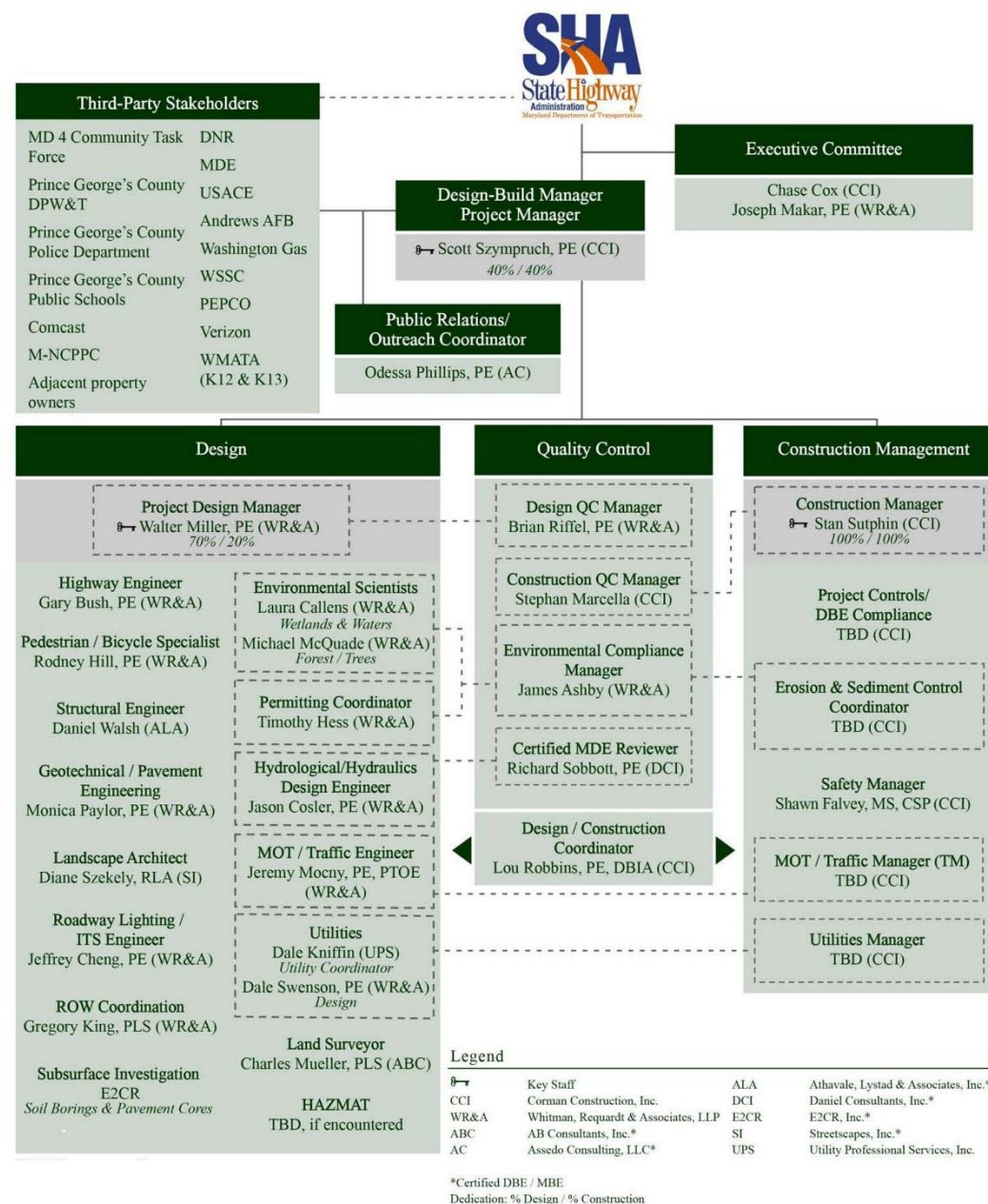
BY

Building Relationships
Establishing Dialogues
Establishing Procedures

However, *the most important ingredient to a successful Design-Build project is the people assigned to the project* for the owner, review agencies and design-build team. On our organization chart, we have identified our proposed "Chain Of Command." As requested, the planned percent commitment is shown on the chart. We have also indicated the functional responsibilities of many positions and their interrelationship to each other and third parties. Unique to Corman is a dedicated Design/Construction Coordinator (DC/C) to review design submittals for conformance to project requirements, constructability and conformance to the specific project scheduling needs. His responsibility is to confirm the design and construction teams collaborate early and frequently to ensure constructability is built into the design plans and specifications and the documents meet the RFP and SHA's requirements. Our D/CC Lou Robbins has been involved with D-B in the Baltimore/Washington area since 1986. He has led design-build teams as the General Contractor, Designer and Quality Control Manager. Lou, a practicing design engineer for over 40 years, understands the obligations the designer has to the general public and the potential health and welfare repercussions of engineering design. In all cases, the safety and accuracy of the design, while meeting contract requirements, will be the overriding consideration and control the decision process. His unique experiences as both a lead designer and general contractor will greatly assist in coordinating the contractor and designers to successfully meet SHA's strict requirements.

Our Construction Manager will be an integral part of this design process, attending the design meetings to ensure integration of the design and construction portions into a smooth functioning team. This minimizes surprises or changes being requested by the construction team once the design is "Ready for Construction." During construction, the designers will regularly visit the project site and be immediately available to address any issues that do arise. However, because the construction staff was involved during design, we have found questions regarding design intent are not common or time consuming impacting quality or schedule.

In short, Corman and WR&A understand the unique attributes of design-build, have a pre-existing relationship, will stress partnering for project success, put the success of the project in the forefront, and most importantly, assign the right people to run the project without building internal roadblocks while providing them the resources they need to perform quality work on time, on budget, with zero safety incidents.



Roles and Responsibilities

Scott Szympruch, PE, Design-Build Project Manager (DBPM) is the primary point of contact with SHA. He will have full responsibility for compliance to all contractual and technical project requirements, as well as overall project quality management, and contract administration. Scott will ensure the team is fully integrated and that the project stays on time and within budget. He will regularly report project progress/conformance to SHA and our Executive Committee.

Walter Miller, PE, Project Design Manager (DM), will report to the DBPM. Walt will be responsible for executing the design and other professional efforts, and will oversee all elements of the design, including the Design Quality Program (DQP). He will ensure design leaders coordinate with each other and construction staff. He will ensure that all necessary permits are obtained. Walt will assign resources, oversee/coordinate design sub-consultants, coordinate design schedules, develop/implement corrective measures, if needed, and integrate environmental compliance measures into the design. During construction, Walt will manage plan modifications and shop drawings and review construction activities with the CM.

Stan Sutphin, Construction Manager (CM), will report to the DBPM. Stan will manage the onsite construction team, including the Construction QC Manager, E&SC Coordinator, and project controls, and safety, MOT/traffic, and utility managers. Assigned onsite full-time during construction, Stan's focus is to perform construction safely and ensure all work is in conformance with approved plans/contract documents. Stan will regularly coordinate with the design team during construction to issue/review RFIs and shop drawings on time, and prepare as-builts and plan revisions. During field operations, Stan will oversee MOT to minimize impacts to pedestrians, bicyclists, motorists and/or field staff safety concerns.

Discipline Leads, including **Highway, MOT/Traffic, H&H, Utilities, Structures, and Geotechnical/Pav't Engineers, Environmental and Landscape Architect Support, Utilities Coordinator, Land Surveyor**, etc. will report to the DM or CM, as appropriate, and manage their own discipline, as well as coordinate with each other and their counterparts in the construction group. They will ensure the work in their discipline is performed properly and meets all applicable standards, as well as current agency and permit requirements. Their duties include assigning adequate resources to meet schedule requirements of design/construction, coordinating closely with the design/construction staff during the phases of the project, visiting the site, and replying to RFIs. Should issues arise, they will be available onsite within 24 hours to analyze the situation and provide advice and/or remediation.

Brian Riffel, PE, Design QC Manager (DQCM), will coordinate with the DM. He will arrange for all design quality control procedures in conformance with the approved DQP. Brian will verify that checks and reviews have been made prior to submissions, including review comment checking, contract conformance reviews, interdisciplinary reviews and constructability reviews by Corman's field staff. He will attend and contribute in the design/construction coordination meeting and keep the DBPM informed of the progress of his reviews.

Stephan Marcella, Construction QC Manager (CQCM), will coordinate with the CM, manage and coordinate construction QC activities for compliance to project requirements and bring any non-compliance issues to management's attention. He will coordinate with the ECM, MDE and SHA field staff. Stephan will also attend three-week look-ahead meetings and keep abreast of the overall schedule for accurate scheduling of inspections.

James Ashby, Environmental Compliance Manager (ECM), will report to the DBPM and ensure that environmental commitments are met. The ECM will interface with the SHA, MDE Enforcement Officer, Independent Environmental Monitors if any, and our CM and DM to strictly enforce environmental requirements and resolve non-compliances. Duties include conducting project meetings to discuss concerns, providing inspections prior and after large storm events, and making recommendations on field changes to better protect the environment (ESC, tree and wetland protection) and the contractor's responses to areas requiring maintenance.

Lou Robbins, PE, DBIA, Design/Construction Coordinator (D/CC), will also report to the DBPM and coordinate the efforts of the design team with the needs and desires of the construction team. He will chair regular weekly design progress meetings to ensure the desired means and methods are being included and coordinate with the CM to ensure the constructability reviews are being performed as the design progresses. Lou will also review the design for compliance with current SHA and AASHTO requirements.



Team Experience

2.09.04 TEAM EXPERIENCE

FORM A-1
PROPOSED KEY STAFF INFORMATION

Name of Proposer: **CORMAN CONSTRUCTION, INC.**

Position	Name	Years of Experience ¹	Education/ Registrations	Name of Employer
Project Design Manager	Walter P. Miller, PE	21 / 27	BS, Civil Engineering/ Maryland Registered Professional Engineer, #19165	Whitman, Requardt & Associates, LLP
Design-Build Project Manager	Scott Szympruch, PE	14 / 18	BS, Civil Engineering / Maryland Registered Professional Engineer, -#25502	Corman Construction, Inc.
Construction Manager	Stanford Sutphin	33 / 41	MDE Green Card MD/SHA Temporary Traffic Control Manager/ ATSSA Traffic Control Manager	Corman Construction, Inc.

¹Present Firm/Total

2.09.04.1 LEAD CONSTRUCTOR FIRM EXPERIENCE

SCOTT SZYMPRUCH, PE – DESIGN-BUILD PROJECT MANAGER

YEARS WITH CORMAN: 14 / TOTAL YEARS: 18

EDUCATION: BS, Civil Engineering, University of Maryland

ACTIVE REGISTRATIONS: Maryland Registered Professional Engineer #25502. Also a PE in Washington, DC, Virginia, North Carolina, Delaware, and South Carolina; MDE Green Card

During his 14-year tenure with Corman Construction, Scott rose through the ranks from Sr. Project Engineer, Project Manager, Chief Engineer, Project Sponsor to Corman Mid-Atlantic Division Manager.

RELEVANT PROJECT EXPERIENCE

Jan. 2007-Jan. 2011 Design-Build Intercounty Connector Contract A, Montgomery County, MD - \$483.4M-MSHA -7.2 miles controlled-access tri-lane divided highway with bridges/bridge widenings, stormwater management/drainage systems, HMA pavement which encompassed new access ramps to two major interchanges, including milling/resurfacing at tie-in limits, utility relocations, MOT, overhead and cantilever signs, erosion and sediment control, reforestation, and landscaping. As **Construction Manager**, Scott worked from procurement to completion and oversaw construction on the entire project. He was a leader in conceptual design development, participated in oral presentations, and authored the schedule. Upon NTP, Scott participated in design development task force teams and provided constructability reviews. He worked with the DB Coordinators and Construction Project Engineers leading the roadway, drainage, bridge, environmental, utility and subcontracting areas. He participated in the geotechnical task force team and oversaw drilling. Scott provided professional engineering designs (support of excavation and temporary work) and supervised field layout, construction, quality control, and safety management. Scott was highly involved in the CPM Schedule, oversaw the Construction Quality Manager and coordinated with adjacent projects. He contributed in partnering and progress meetings, attended community outreach meetings, worked with environmental teams on environmental stewardship, and coordinated inspections / resolutions with our independent QC team.

Nov. 2006-Jan. 2007 Design-Build MD 30 Hampstead Bypass Design-Build, Hampstead, MD - \$43.2M-MDOT -4.5 mile, two-lane asphalt environmentally-sensitive roadway project with four bridges, three roundabouts, new storm drainage, MSE and noise walls, extensive stormwater management facilities, water and sewer relocations, lighting, landscaping, signing, pavement markings, traffic signals, ROW acquisition, two major traffic tie-ins and BGE, Verizon and Adelphia utility relocations. Milled/resurfaced tie-in connections at the north and south termini points. These tie-in points along with three local crossings required pavement rehabilitation/ removal and turf re-establishment. As **Project Manager**, Scott worked with the designer, including design packages, and oversaw construction. He provided management, supervision, professional engineering designs, field layout, subcontract negotiation / administration, quality control, materials control / procurement, safety management, environmental compliance management, cost accounting and scheduling for compliance and successful completion.

2003- 2006 Woodrow Wilson Bridge VA Approach Spans VAC, Alexandria, VA - \$126.8M-MSHA -Two-phase construction included segmental bridge including placement of two CIP concrete bridge decks, demolition/removal of a six-lane structure and foundation construction of inner loop bridges. Mt. Vernon and Jones Point Park Trail was within and across project limits and required public access and maintenance at all times. Site is environmentally sensitive due to its proximity to the Potomac River. There were stringent erosion & sediment control and spill containment measures throughout construction. It is also an urban residential community requiring constant communication with residents and close attention to noise, dust and traffic ordinances. As **Project Manager**, Scott also staffed / oversaw onsite personnel and managed a team of 13: One General Superintendent, two Superintendents, one Project Engineer, one Pre-Cast Project Engineer, One Structures Engineer, three Field Engineers, one Survey Party Chief, one Safety Manager, one Office Manager and one Office Clerk. Scott conducted daily job schedule / safety meetings with the General Superintendent and Safety Manager and created, updated, and modified the schedule. He oversaw interaction with owner's representative, Potomac Crossing Consultants (PCC), including change orders and facilitated monthly partnering meetings with owner, PCC and Parsons Transportation Group. He coordinated with adjacent Woodrow Wilson Bridge projects by attending weekly scheduling meetings with the GEC.

STANFORD E. SUTPHIN – CONSTRUCTION MANAGER

YEARS WITH CORMAN: 33 / **TOTAL YEARS:** 41

ACTIVE REGISTRATIONS/CERTIFICATIONS: *MDE Green Card #14055; MD/SHA Temporary Traffic Control Manager; ATSSA Traffic Control Manager; OSHA 10-Hour*

Stan has extensive experience on SHA Design Build projects and specializes in highway, streetscape, utility, earthwork, and environmental projects where community involvement is critical to the project's success.

RELEVANT PROJECT EXPERIENCE

Aug. 2010-June 2012 Design-Build I-70 Phase 2D, Frederick, MD-\$35.4M-MDOT/SHA - Project eliminates merging traffic with the new dedicated through-lane and the auxiliary lane in each direction and improves safety, congestion and traffic flow. Two traffic lanes in each direction were maintained during construction. Pedestrian facilities were included on local streets crossing under the reconstructed Interstate. As **Sr. Superintendent / Construction Manager** Stan supervised field operations, coordinated labor, equipment, and subcontractors, schedules, oversaw safety and quality control compliance and project close out. He oversaw South Street reconstruction, pipe laying, and gas line relocation and sewer relining.

2002-2003 Design-Build MD Route 216 US 29 to I-95, Howard County, MD -\$21.1M-MDOT/SHA-Two-mile realignment of MD 216 as a dual-divided highway with two signalized intersections, new off-ramp, roadway reconstruction, utility coordination, installation and/or relocation of electric, water, sewer, gas, petroleum, fiber optic, and cabling, noise walls, 11 new stormwater management ponds, erosions & sediment control/permitting, storm drainage, and MOT phasing. A busy cross county commuter route was realigned/widened with traffic pedestrian controls within the neighborhood to maintain access for homeowners and businesses. As **Sr. Superintendent**, Stan supervised field operations, coordinated labor, equipment, and subcontractors, schedules, oversaw safety and quality control compliance and project close out. He was integral in partnering meetings and was involved in design meetings/reviews.

2009-March 2010 Design-Build Intercounty Connector Contract B, Montgomery County, MD -\$558M-MSHA-ICC-B consisted of a new 7.1 mile six-lane divided highway rerouting traffic from clogged neighborhood streets and improves mobility and safety. Work included design and phased construction of five arterial roadways with pedestrian access, three miles of a 10' wide pedestrian/bicycle shared-use path, excavation, new pavement, roadway lighting, drainage, utility relocations, MOT, community outreach, stakeholder and third-party coordination. As **Sr. Erosion & Sediment Control Superintendent**, Stan was responsible projectwide for the maintenance of all E & S controls.

2007-2009 Design-Build MD 924 (Main Street) from MD 22 to Maulsby Avenue, Bel Air, MD-\$7.6M-MDOT/SHA- Project included replacing over 41,000 SF concrete sidewalk, 12,500 SF brick pavers, 6,300 LF curb and gutter, and utility improvements. Pedestrian facility upgrades provides a safe and aesthetically-pleasing facility while meeting/exceeding Federal and State ADA Guidelines. There was street/pedestrian lighting, traffic signalization, landscaping, roadway paving, and MOT. As **Superintendent / Construction Manager**, Stan supervised field operations, coordinated labor, equipment, and subcontractors, schedules, oversaw safety and quality control compliance and project close out. He was the primary public relations liaison with the town and business owners.

2007-2009 Design-Build MD 7D Elkton-Utilities and Streetscape, Elkton, MD-\$8.6M-MDOT/SHA- Reconstruction of one half mile of Elkton's Main Street including curbs and gutters, sidewalks with brick pavers, street lighting, new signalization, landscaping, and asphalt paving. As **Superintendent / Construction Manager**, Stan supervised field operations, coordinated labor, equipment, and subcontractors, schedules, oversaw safety and quality control compliance and project close out. He was integral in partnering meetings with local stakeholders.

FORM A-2
PROJECT DESCRIPTION

Name of Proposer: Corman Construction, Inc.

Name of Firm: **Corman Construction, Inc.**

Project Role: **Prime Contractor**

Designer __ Contractor: Other (Describe): _____

Years of Experience: Roads/Streets: **93** Bridges/Structures: **93** Environmental: **38**

Project Name, Location, Description and Specific Nature of Work for which Company was responsible:
DESIGN-BUILD MD ROUTE 216 US 29 TO I-95, HOWARD COUNTY, MD-Two-mile realignment of

MD 216 as a dual-divided highway with two signalized intersections, new off-ramp, roadway reconstruction, utility coordination, installation and/or relocation of electric, water, sewer, gas, petroleum, fiber optic, and cabling, noise walls, 11 new stormwater management ponds, erosions & sediment control/ permitting, storm drainage, including culvert structures, ditches, spring control, and underdrains, and MOT phasing. A busy cross county commuter route was realigned/widened with traffic pedestrian controls within the neighborhood to maintain access for homeowners and businesses.



Maintenance of Traffic

Environmental improvements to Hammond Branch

stream were conducted as project was near Hammond Branch. Corman and MSHA instituted an environmental stewardship program to mitigate impacts. Project also had a full time Independent Environmental Manager.

As Design-Builder, Corman was responsible for design and construction, including highways/structures, stream improvements, noise walls, MOT, environmental permits and protection, public relations, utility coordination/ relocations, and stormwater management facilities. Innovative techniques to minimize construction impacts included constructing a bifurcated roadway to reduce earthwork resulted in minimizing wetland and buffer impacts while reducing truck traffic. By not hauling on local roads, there was less dust and mud tracking. Clean water diversion ditches were also used to allow larger drainage areas to bypass the construction zone. . This effort cut months off the schedule and yielded an environmental benefit by reducing impact to wetlands and buffers. It also reduced heavy equipment traffic through adjacent neighborhoods thereby minimizing noise, safety risks, wear on infrastructure and inconvenience to local communities and motorists. Other cost control methods involved the using HDPE in lieu of concrete pipe and design of oversized headwalls to minimize impacts to Waters of the US.

Project earned impact reduction incentives, and maintained “A” ratings in environmental, MOT, and contractor performance. Project was completed on-time, under budget and served as a testament of team partnering.

The following key staff shown for the MD 4 Project provided services on this project: Stan Sutphin was the Sr. Superintendent.

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

2006 MdQI Award of Excellence-Partnering-Major Project

2006 MdQI Award of Excellence-Major Roadway Project

2006 PCI Bridge Design Award –Best Custom Transportation Design

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

Address: 707 N. Calvert Street, Baltimore, MD 21202



Contact Name: Lisa Choplin	Telephone: 410-545-8824
Owner's Project or Contract No.: HO3065171	Fax No.: 410-209-5001
Contract Value (US\$): \$20,435,000.00	Final Value (US\$) \$21,116,300.79 <i>(Includes owner-approved change orders)</i>
Percent of Total Work Performed by Company: 75% (25% subcontracted)	
Commencement Date: 10/5/02	Original Completion Date As Defined in IFB: 11/1/04
Actual Completion Date: 5/1/05 <i>(includes owner-approved time extensions/change orders)</i>	
Any disputes taken to arbitration or litigation? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	

FORM A-2
PROJECT DESCRIPTION

Name of Proposer: **Corman Construction, Inc.**

Name of Firm: **Corman Construction, Inc.**

Project Role: Prime Contractor

Designer Contractor: Other (Describe): _____

Years of Experience: Roads/Streets: **93** Bridges/Structures: **93** Environmental: **38**

Project Name, Location, Description and Specific Nature of Work for which Company was responsible:
DESIGN-BUILD MD 30 HAMPSTEAD BYPASS, HAMPSTEAD, MD - Two-lane asphalt roadway with

stream and wetland crossings and four bridges spanning them, three roundabouts, new storm drainage, MSE and noise walls, 13 stormwater management ponds, water and sewer relocations, erosion & sediment controls, landscaping, signing, pavement markings, traffic signals, ROW acquisition, two major traffic tie-ins and BGE, Verizon and Adelphia utility relocations. Since this endeavor involved impacts to forest, Waters of the US and wetlands, it was imperative to schedule construction around in-stream restrictions for Use I, II and IV waterways.



As Design-Builder, Corman was responsible for design and construction of this new two lane roadway, including new turn lane off existing MD 30, roadway, drainage, grading / erosion & sediment controls, structures (bridges and noise walls), landscaping, signing, striping and lighting, 1,040 LF of temporary detour roads, environmental compliance, utility relocations, obtaining permits, design and construction quality control, and community relations.

Corman provided a full-time Erosion and Sediment Control Manager to perform daily compliance inspections, partner with MSHA and the Independent Environmental Monitor and spend time in design development with designer. Meetings were held regularly to review design plans and look for ways to reduce temporary and permanent impacts. As a result, the team succeeded in reducing wetland impacts by an additional 0.5 acres, forest by three acres, and water impacts by 1,000' of what was permitted resulting in a 10% reduction in wetlands, 37% streams, and 18% of forest when compared to the permitted impacts.

Partnering was successful during the entire project, including special requests from local land owners and farmers. The Design-Build team worked with the owner in public outreach keeping the local community informed of schedules and impacts. Corman maintained an "800" line for public information, produced monthly newsletters and kept a detailed customer satisfaction log.

Design-build team acquired all permits for construction and coordinated electric, telephone, cable, water and sewer relocations and adjustments with utility companies. Our Team was also responsible for design of turf and landscaping plans ranging from wetland plantings to carefully-designed gateway plans which incorporated local and county approvals. Pedestrian facilities, both temporary and permanent, were provided at the north tie in point of the project adjacent to a large Walmart shopping center.

The following key staff shown for the MD 4 Project provided services on this project: Scott Szympruch, PE was a Project Manager.

List any awards and/or commendations received for the project:	
2010 Design-Build Institute of America (DBIA) – National Design-Build Excellence Award for a Transportation Project Under \$50 Million	
2010 Design-Build Institute of America (DBIA) Mid-Atlantic Region – Regional Design-Build Excellence Award for a Transportation Project Under \$50 Million	
2010 American Road & Transportation Builders Association (ARTBA) “Globe” Environmental Award – Local & Secondary Roads - \$10-\$100 Million	
2010 MdQI Award of Excellence - Environmental	
2010 MdQI Award of Excellence – Green Transportation	
2010 MdQI Award of Excellence – Consultant Highway Design	
2010 American Council of Engineering Companies (ACEC)/Maryland – Honor Award	
2010 ACEC Engineering Excellence Awards – Transportation Candidate	
Name of Client (Owner/Agency, Contractor, etc.): Maryland Dept. of Transportation/ State Highway Administration	
Address: 707 N. Calvert Street Baltimore, MD 21202	
Contact Name: Ross Clingan	Telephone: 301-343-8377 (Cell)
Owner’s Project or Contract No.: CL4165370	Fax No.: 301-624-8259
Contract Value (US\$): \$40,137,000.00	Final Value (US\$) \$43,294,527.13 <i>(Includes owner-approved change orders)</i>
Percent of Total Work Performed by Company: 55%	
Commencement Date: 5/30/06	Original Completion Date As Defined in IFB: 12/1/08
Actual Completion Date: 8/7/09 <i>(Includes approved time extensions)</i>	
Any disputes taken to arbitration or litigation? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	

FORM A-2 PAST PROJECT DESCRIPTION

Name of Proposer: **Corman Construction, Inc.**

Name of Firm: **Corman Construction, Inc.**

Project Role: **Prime Contractor**

Designer: ___ Contractor: Other (Describe): _____

Years of Experience: Roads/Streets: **93** Bridges/Structures: **93** Environmental: **38**

Project Name, Location, Description and Specific Nature of Work for which Company was responsible:

DESIGN-BUILD I-70 PHASE 2D, FREDERICK, MD-
 Design/reconstruct/widen 2-mile section of dual-divided I-70 including replacing two narrow bridges over South Street and MARC railroad. The heavily traveled, 80,000 vehicles per day, roadway was widened one lane in each direction to eliminate traffic backups due to merging lanes for the South Street Interchange. The on-off-ramps were reconfigured as dedicated lanes to maintain flow from exiting and merging traffic improving safety, congestion and traffic flow between MD 144 and the MD85/East Street interchanges. Two traffic lanes in each direction were maintained during the staged construction.



Frederick is known for its karst formations that often result in sinkholes. Plans that varied with the type and size of the sinkhole were in place to mitigate them. Over the course of the project, Corman responded promptly to over 15 sinkholes occurrences. Due to the karst topography the project included lining ditches, ponds and roadway section with various lining materials.

Environmental features included Roadside Trees and The Hoke-Grove Lime Kiln cultural resource along with the karst soil regime requiring minimization of water infiltration.

The scope of the project included raising the vertical profile of mainline I-70 and ramps, replacing dual bridges, interstate roadway widening and cross-slope correction, reconstruction of 4 ramps, reconstruction of local roads (Reich's Ford Road/South Street and Monocracy Boulevard), MSE and decorative retaining walls, construction of a driveway and parking lot at the Pond C Pump Station, new traffic signals including pedestrian crossings, sidewalks with ADA accommodations, lighting, retrofit and expansion of a pump controlled existing stormwater management pond that included 60 mil impervious liner and a new forebay, new inflow devices and drainage structures, 5,000 LF concrete storm drain including transverse crossings of I-70, retrofitted 2,000 LF of existing grass swales with 30 mil PVC lining, and installed over three miles of new lined grass swales for water quality control of roadway drainage. Landscaping included stormwater facility plantings, bridge abutment planting, and large masses of trees to create naturalistic groupings along the roadway.

The bridge construction involved two stage construction and included raising the elevation of new bridges by 4'. Support of excavation at the approaches for the staged construction was accomplished with wire/geotextile MSE walls. The bridges consisted of conventional structural steel, concrete deck, H-pile foundations with rock sockets and included decorative arch piers.

Third party coordination included utility relocations, MTA railroad track crossings and MOT with the local community and commuters.

As Design-Builder and Lead Constructor, Corman was responsible for design and construction, including highways, MOT, environmental permits and protection, public relations, utility coordination/ relocations, and stormwater management facilities. We collaborated with the designer maximizing efficiency in design applications and means and methods of construction, breaking the design into 8 packages for overlay of construction and design. Corman utilized an independent Certified MDE Reviewer to oversee all submissions prior to being sent to MDE to expedite the permitting process and an Environmental Compliance Manager who was an integral part of the compliance program. The project had an overall environmental compliance score of 94%.

Project maintained "A" ratings in environmental, MOT, and contractor performance. Corman self-performed 60% of the work.

The following key staff shown for the MD 4 Project provided services on this project: Stan Sutphin was the Sr. Superintendent/Construction Manager.

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

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

Address: 5111 Buckeystown Pike, Frederick, MD 21704

Contact Name: John Huchrowski **Telephone:** 301-624-8201

Owner's Project or Contract No.: FR4275172 **Fax No.:** 301-624-8225

Contract Value (US\$): \$35,443,974.13 **Final Value (US \$):** \$37,559,430.96 (*Owner directed or approved changes*)

Percent of Total Work Performed by Company: 60%

Commencement Date: 8/2/10 **Original Completion Date As Defined in IFB:** 7/1/13

Actual Completion Date: Est. August 2014

Any disputes taken to arbitration or litigation? Yes No

2.09.04.2 LEAD DESIGN FIRM EXPERIENCE

FORM A-1
PROPOSED KEY STAFF INFORMATION

Name of Proposer: **CORMAN CONSTRUCTION, INC.**

Position	Name	Years of Experience ¹	Education/ Registrations	Name of Employer
Project Design Manager	Walter P. Miller, PE	21 / 27	BS, Civil Engineering/ Maryland Registered Professional Engineer, #19165	Whitman, Requardt & Associates, LLP
Design-Build Project Manager	Scott Szympruch, PE	14 / 18	BS, Civil Engineering / Maryland Registered Professional Engineer, #-25502	Corman Construction, Inc.
Construction Manager	Stanford Sutphin	33 / 41	MDE Green Card MD/SHA Temporary Traffic Control Manager/ ATSSA Traffic Control Manager	Corman Construction, Inc.

¹Present Firm/Total

FORM A-1 (continued)
PROPOSED KEY STAFF INFORMATION

Name of Proposer: **CORMAN CONSTRUCTION, INC.**

Position	Name	Years of Experience ¹	Education/ Registrations	Name of Employer
Highway Engineer	Gary Bush, PE	36/36	BS/Civil Engineering MD PE #14255	Whitman, Requardt & Associates, LLP
MOT/Traffic Engineer	Jeremy Mocny, PE, PTOE	17/17	BS/Civil Engineering MD PE #27048 PTOE #1845	Whitman, Requardt & Associates, LLP
H&H Engineer	Jason Cosler, PE	15/22	BS/Civil Engineering MD PE #28467	Whitman, Requardt & Associates, LLP

¹Present Firm/Total

FORM A-1 (continued)
PROPOSED KEY STAFF INFORMATION

Name of Proposer: **CORMAN CONSTRUCTION, INC.**

Position	Name	Years of Experience ¹	Education/ Registrations	Name of Employer
Geotechnical/Pavement Engineer	Monica Paylor, PE	15/23	BS/Civil Engineering MD PE #24413	Whitman, Requardt & Associates, LLP
Structural Engineer	Daniel Walsh, PE	14/34	MS/Structural Engineering MD PE #13784	Athavale, Lystad & Associates, Inc.
Landscape Architect	Diane Szekely, RLA	18/28	BS/Landscape Architecture MD RLA #961	Streetscapes, Inc.
Roadway Lighting/ITS Engineer	Jeffrey Cheng, PE	9/9	BS/Civil Engineering MD PE #39720	Whitman, Requardt & Associates, LLP

¹Present Firm/Total

WALTER P. MILLER, PE – PROJECT DESIGN MANAGER

YEARS WITH WR&A: 21 / **TOTAL YEARS:** 27

EDUCATION: BS, Civil Engineering, Trine University

ACTIVE REGISTRATIONS: Maryland Registered Professional Engineer, License No. 19165

Walt has spent his entire 27-year career working with MSHA and other Maryland transportation agencies covering transportation design, including studies; preliminary and final design; development of contract documents; and construction support services. Project design services included surveys, subsurface investigations and testing, roadway design, bicycle and pedestrian design, MOT, drainage, SWM, ESC, structural design, geotechnical and pavement design, traffic engineering, TMPs, MOTAAAs, signing, marking, lighting, signalization, interconnect, landscaping and reforestation, permitting and permit modifications, environmental compliance including water quality monitoring, utility relocation design and coordination, partnering during design and construction, and public outreach.

RELEVANT PROJECT EXPERIENCE

2007- 2014 Design-Build MD 237 from MD 235 to Pegg Road, St. Mary's County, MD-\$38.5M-MSHA- **Project Design Manager** for final design-build contract documents and construction phase services for the dualization and reconstruction of 2.88 miles of MD 237. Services included **survey; roadway design; bicycle and pedestrian improvements; drainage; SWM; ESC; box culvert design, including maintenance of stream and rock ramp; retaining wall design; noise analysis/mitigation and barrier design; MOT; geotechnical engineering and pavement design; water, sewer, and gas relocation design; utility coordination; signalization, signing, markings, and lighting; landscape design; environmental permitting/compliance; and public outreach.**

2007- 2010 Design-Build I-495 at Arena Drive from MD 202 to MD 214, Prince George's County, MD-\$29.5M-MSHA- **Project Design Manager** for final design-build contract documents and construction phase services for 1.9 miles of median widening on the Capital Beltway for additional lanes in each direction, reconfiguring ramps and modifying intersections at the MD 214 and MD 202 interchanges, and modifying intersections at the Arena Drive ramp termini. Services included **survey; roadway design; pedestrian improvements; drainage; SWM; ESC; MOT; geotechnical engineering and pavement design; utility coordination; signalization, signing, markings, and lighting; landscape design; environmental permitting/compliance; and public outreach.**

2006- 2011 Design-Build MD 355 at Montrose Road/Randolph Road – Phase 1, Montgomery County, MD - \$25.4M-MSHA- **GEC Project Manager**, acting on behalf of SHA-HDD, **managing the design and preparation of contract documents** by other consultants for the preliminary and final design-build phases and an \$8M advanced utility relocation contract for this interchange project. Walt provided technical design reviews and **extensive coordination with the public, utility companies, permit agencies, various SHA Divisions, Montgomery County, and FHWA.**

2000-2005 Design-Build MD 216 Relocated, Howard County, MD-\$21.1M-MSHA- **Project Structural Manager** for the final design of five noise walls and a box culvert extension on this 1.6 mile design-build project. Actively worked with DB Team (**Corman was the Lead Constructor**) during construction to address final roadway and drainage design coordination issues and reviewed DB submittal packages and shop drawings.

2010-Current Highway Design Open-End Contract (BCS 2005-13D), MD Statewide-MSHA: **Project Manager** for the past four years responsible for highway projects totaling over \$5M in design fee. Example projects include:

- **MD 22 at Beards Hill Road, MD 462, and Old Post Road, Harford County, MD:** Prepared studies, preliminary and **final design, contract documents, permits/approvals, and construction related services** for 1.9 miles of improvements along MD 22 involving three intersections.
- **ADA Design and GEC Design Management for Pedestrian Facilities, District 3 and District 4, MD:** **Design and GEC design management services for pedestrian improvements** in Districts 3 and 4.

FORM A-2 PAST PROJECT DESCRIPTION

Name of Proposer: Corman Construction

Name of Firm: **Whitman, Requardt & Associates, LLP**

Project Role: **Lead Design Firm**

Designer: Contractor: Other (Describe): _____

Years of Experience:

Roads/Streets: 99 Bridges/Structures: 99 Environmental: 99

Project Name, Location, Description and Specific Nature of Work for which Company was responsible: **DESIGN-BUILD MD 237 FROM MD 235 TO PEGG ROAD, ST. MARY'S COUNTY, MD** Whitman, Requardt & Associates, LLP (WR&A) was the lead design firm for this design-build project responsible for performing final engineering design services, preparing final construction documents, and obtaining approvals for the dualization and reconstruction of 2.9 miles of MD 237 from a two-lane open section roadway to a four-lane closed-section divided roadway with left-turn lanes at select intersections. Continuous bicycle lanes and sidewalks were provided along the entire length of the project. The new sidewalks connected previously disjointed sections and communities that had sidewalks with no outside connections. Additional improvements included resurfacing and reconstruction of 16 intersecting side streets and over 65



driveways and entrances. The project included a new closed storm drain system consisting of over 13,500 LF of drainage pipe, eight (8) new SWM facilities, and extensive phasing of erosion and sediment control. A 2,200 LF portion of MD 237 vertical alignment was raised 12' to accommodate the replacement of undersized pipe culverts to a twin-cell reinforced box culvert which eliminated the flooding and closing of the roadway during significant storm events. A temporary fabric wall was installed along the proposed fill embankment to prevent the side slope grading of the proposed roadway from extending onto the existing roadway which remained open to traffic. Three noise abatement walls supported on drilled shafts, totaling

1,700 LF, were installed along several residential communities. Geotechnical services included foundation design for the twin-cell box culvert and noise walls, geotechnical evaluation and design of roadway embankments and cuts, and pavement design including Falling Weight Deflectometer testing of existing pavement. Utility work consisted of designing and installing over 10,000 LF of 12" ductile iron water pipe, 6,000 LF of 6" and 8" gas line, 350 LF of low pressure sanitary sewer line with grinder pumps. Utility coordination with utility companies for the relocation of aerial electric, telephone, and cable television was a first order effort requiring individual meetings with utility owners to synchronize their relocation with the roadway reconstruction. Advanced relocation of major electric and telephone aerial facilities was required to facilitate the driving of the piles for the new box culvert. Traffic engineering services included the installation of five new traffic signals, signal interconnect, relocation of a school flashing warning sign, new signing and pavement markings, and new intersection lighting. All intersections were designed to be ADA compliant and were field checked for compliancy during construction. Extensive maintenance of traffic plans were developed to maintain existing traffic along all roadways and access to driveways and entrances at all times during construction. Temporary cross-overs from newly constructed pavement to the existing pavement were necessary as portions of the project were completed. Extensive landscaping was provided along MD 237,

within SWM facilities, and for the replacement of impacted wetlands and forest stands. Landscaping was planted in phases as portions of the projects were completed. During design several trees were slated to be removed, however as a relief to the concerned owner, a landscaped retaining wall was installed to protect and save the trees.

The project was divided into four construction zones to accelerate critical path construction elements (e.g., utility relocation, box culvert, noise wall, etc.) and to manage stormwater runoff during construction. SWM facilities were initially constructed as sediment traps and then converted to final SWM facilities as each construction zone was completed. Each construction zone was designed and submitted for approval separately. This allowed construction to proceed in approved zones as subsequent zones were being designed and approved.

Environmental compliance was a priority and the SHA retained an Independent Environmental Monitor (IEM) through the project duration. Close coordination with the IEM was required to maintain the project within the permit conditions as authorized by the Water Management Administration, the Water Quality Certification, and approved plans and specifications. Special attention was required at Jarboesville Run with the replacement of the pipe culverts with a box culvert due to its natural resources. An automated water quality data logger was installed upstream and downstream to monitor the water quality. Temporary stream diversions were installed to facilitate the construction of the box culvert and a fish passage.

A public outreach program was enacted and included several public meetings and distribution of brochures to inform the public of the project progress and future work efforts. Individual meetings with concerned property owners were performed to discuss impacts to the owner's properties and respond to their questions and concerns. Coordination with an adjoining St. Mary's County project was also required. Partnering During Construction was performed including monthly partnering meetings with SHA, Design Build Team and other stakeholders.

The following key staff shown for the MD 4 Project provided services on this project: Walter Miller, Gary Bush, Jason Cosler, Jeremy Mocny, Rodney Hill, Monica Paylor, Jeff Cheng, Laura Callens, Michael McQuade, James Ashby, Timothy Hess, Gregory King, and Diane Szekely.

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

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

Address: 707 North Calvert Street

Baltimore, Maryland 21202

Contact Name: Jeffery Folden

Telephone: 410-545-8814

Owner's Project or Contract No.: SM757171

Fax No.: 410-209-5001

Contract Value (US\$): \$35.9 million

Final Value (US \$): \$38.5 million

Percent of Total Work Performed by Company: 100%

Commencement Date: December 2007 **Original Completion Date As Defined in IFB:** November 30, 2010

Actual Completion Date: January 2014 *(extended by approved change orders)*

Any disputes taken to arbitration or litigation? Yes No

FORM A-2 PAST PROJECT DESCRIPTION

Name of Proposer: **Corman Construction**

Name of Firm: **Whitman, Requardt & Associates, LLP**

Project Role: **Lead Design Firm**

Designer: Contractor: Other (Describe): _____

Years of Experience:

Roads/Streets: 99 Bridges/Structures: 99 Environmental: 99

Project Name, Location, Description and Specific Nature of Work for which Company was responsible: **MD 22 BRAC PROJECTS, HARFORD COUNTY, MARYLAND** Under our BCS 2005-13D contract, Whitman, Requardt & Associates, LLP (WR&A) is providing preliminary and final engineering and construction phase services along 1.9 miles of MD 22 to accommodate the anticipated increase in traffic resulting from Base Realignment and Closure (BRAC) at Aberdeen Proving Ground (APG). Improvements to MD 22 begin at I-95 and extend east to APG and include improvements to intersections with Beards Hill Road, Middleton Road, MD 462, and Old Post Road. The project was split into three construction contracts and includes additional through lanes on MD 22, additional auxiliary lanes on both MD 22 and intersecting roadways, resurfacing all roadways within the limit of work, median reconstruction, four new SWM facilities, and four traffic signal replacements. Designated bicycle lanes along all segments are provided. **The project enhances pedestrian and bicycle facilities by installing curb and sidewalk along both sides of MD 22.**

Over 1.5 miles of continuous sidewalk along MD 22 will be provided whereas today there are only disjointed sections. Public involvement with adjacent property owners included an open public meeting



format and individual meetings with residents and businesses. Comprehensive MOT plans were prepared to accommodate peak hour traffic. Temporary traffic signal plans were prepared to maintain signalization for the initial construction phase which will require the removal

of the existing signal poles and equipment. The MOT plans include provisions for temporary pedestrian accessibility. Utility coordination with both public and private facilities is ongoing to minimize or mitigate impacts including numerous meetings with utility companies. During the NEPA process, noise impact studies were performed with noise mitigation as a requirement for approval. Design services included alignment studies, traffic studies, highway engineering, ADA compliant pedestrian facilities, bicycle facilities, property surveys, plat preparation, hydrologic and hydraulic design, SWM design, erosion and sediment control (E&SC) design, utility relocation coordination, geotechnical engineering, maintenance of traffic, signing, lighting, pavement markings, traffic signalization, retaining wall design, noise barrier analysis and design, landscape architecture services, public involvement, value engineering, cost estimates, special provisions and coordination with project stakeholders. WR&A is acquiring MDE SWM/E&SC approval, preparing the roadside tree permit, preparing wetland impact plates, participating in Partnering During Construction with SHA, and performing construction related services. The project includes 18,000 LF of temporary concrete barrier, 70,000 CY of excavation, 10,000 LF of storm drains, 20,000 LF of underdrain, a 1,200 LF noise barrier, 700 LF of retaining walls, 56,000 TONS of asphalt, 32,000 LF of curb, 70,000 LF of sidewalk, and \$3.5 Million in utility relocations.

The MD 22 at Beards Hill Road intersection is located in a commercialized area that includes fast food restaurants, commercial banks, retail shopping centers, and individual retail establishments. Improvements to the intersection include third lane widening from I-95 to east of Middleton Road connecting with the MD 462 contract and additional auxiliary lanes at the Beards Hill Road intersection. With commercial properties being adjacent to Beards Hill Road, minimal right-of-way can be acquired; thus, lane reassignments are being enacted to reduce impacts. A comprehensive temporary traffic signal design is being implemented to maintain traffic during construction.

The MD 22 at MD 462 intersection is located in a residential area with numerous properties abutting MD 22 and MD 462. Improvements to the intersection include third lane widening of MD 22 from east of Middleton Road connecting with the Beards Hill Road contract and additional auxiliary lanes at the MD 462 intersection. Several public schools are located near the project, requiring the pedestrian facilities to be maintained during construction. MD 462 was aligned to reduce impacts to existing utility poles. A substantial number of property acquisitions are required, including total takes. WR&A performed the property surveys and plat development services.

The MD 22 at Old Post Road intersection is located just west of the APG entrance. Improvements to the intersection include third lane widening of MD 22 from US 40 to 950' east of Old Post Road, and additional auxiliary lanes at the Old Post Road intersection. MD 22 will remain an open section with drainage ditches and cross-culverts conveying drainage to a new stormwater management facility. A major underground electrical duct bank is to be relocated. The MD 22 roadway alignment and adjacent noise abatement wall were located to avoid the relocation of an existing deep sanitary sewer. The noise wall design required careful coordination with BG&E and special post design to allow low overhead equipment due to close high voltage lines.

The following key staff shown for the MD 4 Project provided services on this project: Walter Miller, Gary Bush, Jason Cosler, Jeremy Mocny, Rodney Hill, Monica Paylor, Jeff Cheng, and Gregory King.

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

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

Address: 707 North Calvert Street
 Baltimore, MD 21202

Contact Name: Lindsay Bobian **Telephone:** 410-545-8765

Owner's Project or Contract No.: HA3485370, HA3485470, HA3485570 **Fax No.:** 410-209-5001

Contract Value (US\$): \$26 million **Final Value (US \$):** To be determined

Percent of Total Work Performed by Company: 100%

Commencement Date: January 2014 **Original Completion Date As Defined in IFB:** January 2017

Actual Completion Date: To be determined

Any disputes taken to arbitration or litigation? Yes No

FORM A-2 PAST PROJECT DESCRIPTION

Name of Proposer: Corman Construction

Name of Firm: **Whitman, Requardt & Associates, LLP**

Project Role: **Lead Design Firm**

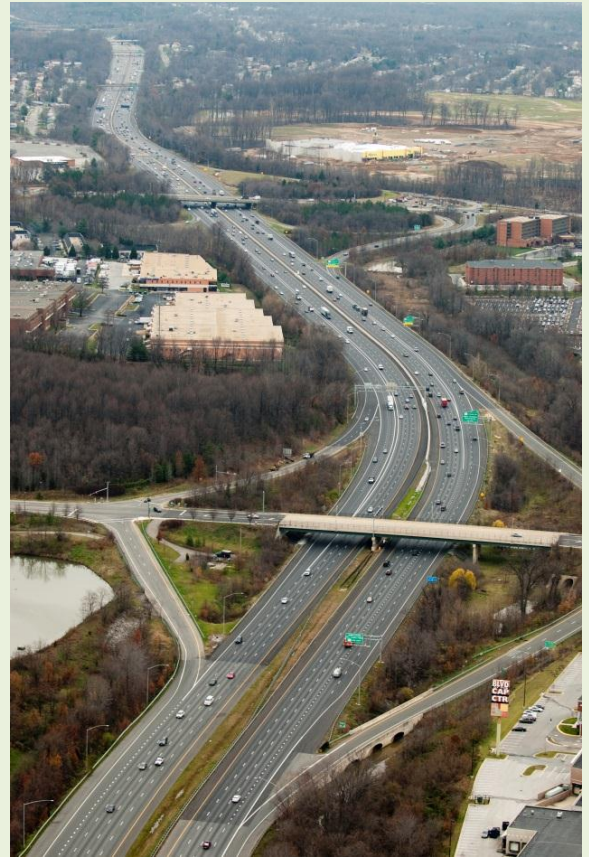
Designer: Contractor: Other (Describe): _____

Years of Experience:

Roads/Streets: 99 Bridges/Structures: 99 Environmental: 99

Project Name, Location, Description and Specific Nature of Work for which Company was responsible: **DESIGN-BUILD I-495 AT ARENA DRIVE FROM MD 202 TO MD 214, PRINCE GEORGE'S COUNTY, MD** Whitman, Requardt & Associates, LLP (WR&A) was the lead design firm for this design-build project responsible for performing final engineering design services, preparing final construction documents, and obtaining approvals for improvements to I-495 at Arena Drive. The project included 1.9 miles of median widening on the Capital Beltway for additional lanes in each direction, reconfiguring ramps and modifying intersections at the MD 214 and MD 202 interchanges, and modifying intersections at the Arena Drive interchange ramp termini.

The proposed improvements accommodated three through-lanes and two collector-distributor lanes in each direction which allow the Arena Drive interchange with I-495 to remain open on a full-time basis. Additional improvements included resurfacing of existing pavement on I-495, MD 214 and MD 202. Existing pavement along I-495 was reconstructed at selected locations. Intersection improvements included the reconstruction of pedestrian facilities to conform to ADA requirements and the installation of traffic and pedestrian signals at Arena Drive, and the installation of traffic signals at MD 214 and MD 202. Traffic improvements included the installation of four new traffic signals, extensive overhead signing, pavement markings, partial interchange and intersection lighting, and signal interconnect. Additional improvements included a new median closed storm drain system, construction of a new SWM facility, installation of erosion and sediment control measures, construction of a new bifurcated concrete median barrier, new roadside and SWM landscaping, and on-site reforestation. WR&A services included field surveys, roadway design, evaluating design exceptions, drainage design, stormwater management design, erosion and sediment control, environmental permitting, geotechnical engineering including evaluation of existing pavement and design pavement rehabilitation, detail bridge structural modifications, signing, lighting, pavement marking, traffic signalization, maintenance of traffic, utility coordination, public outreach and coordination with stakeholders.



The conceptual SWM was re-evaluated and it was determined that by revising the conceptual design a SWM facility in a wooded loop ramp could be eliminated. This revision was submitted and approved by SHA and MDE resulting in significant cost savings both in construction and future maintenance while avoiding impacts

to the existing forest stand. The heavy traffic volumes on MD 202, MD 214, and I-495 with an ADT of 190,000 vehicles per day required extensive multi-phase maintenance of traffic staging. MOT plans were prepared to maintain all lanes of traffic on I-495 and throughout the interchanges during peak hours. The MOT design also maintained the special event traffic patterns operated during Washington Redskins home games including shoulder use for exiting traffic at Arena Drive. WR&A coordinated with SHA, OOTS, CHART and Prince George's County during design and construction, and prior to enacting lane reductions, I-495 traffic pattern changes, and interchange ramp configuration changes. As a cost saving measure, WR&A proposed the re-use of two cantilever signs, two overhead signs and two overhead dynamic signs. Installation of a new 48" RCP under the inner loop of I-495 was required to provide an outlet for the new closed storm drain system in the median. The pipe was installed by jacking and boring to minimize disruption to traffic. Also, WR&A acquired MDE, SWM/E&SC approval, updated/modified the forest impact permit, updated the wetland impact plates and permits, prepared revisions to plans under construction, participated in Partnering During Construction with SHA, and performed construction related services. All design schedules were met on this project.

The project quantities include 24,000 SY of pavement grinding, 80,000 TONS of HMA, 7,550 LF of concrete median barrier, 12,000 LF of traffic barrier W beam, 11,000 LF of underdrain, 375 LF of RCCP including jacking 125 LF, 3200 LF of PE pipe.

The following key staff shown for the MD 4 Project provided services on this project: Walter Miller, Gary Bush, Jason Cosler, Jeremy Mocny, Rodney Hill, Monica Paylor, Jeff Cheng, Laura Callens, Michael McQuade, Gregory King, and Diane Szekely.

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

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

Address: 707 North Calvert Street

Baltimore, Maryland 21202

Contact Name: Eric Marabello

Telephone: 410-545-8770

Owner's Project or Contract No.: PG6385172

Fax No.: 410-209-5001

Contract Value (US\$): \$26.6 million

Final Value (US \$): \$29.5 million

Percent of Total Work Performed by Company: 100%

Commencement Date: May 2007 **Original Completion Date As Defined in IFB:** August 2009

Actual Completion Date: December 2009 *(extended by approved change orders)*

Any disputes taken to arbitration or litigation? Yes No



Environmental Approach & Environmental Past Performance

2.09.05 ENVIRONMENTAL APPROACH AND ENVIRONMENTAL PAST PERFORMANCE

A. ENVIRONMENTAL APPROACH

Understanding Major Environmental Features: The major environmental features as with all projects, are one of the most important aspects for designer and contractor to work together to assure that impacts are minimized. With more than five (5) acres of forest, 113 individual trees, 703 linear feet of stream (from plates), 2,489 square feet of wetland buffer (from plates), and a park potentially impacted, there are substantial issues to be evaluated and opportunities for minimization.

During design, we will look at each environmental feature individually to see where minimization may be possible by reducing the LOD. The Corman/WR&A Team will review all plans as part of our QA/QC process to confirm all feasible measures have been taken to minimize impacts. Environmentally-sensitive features will be identified and protected using orange construction fence before any personnel or equipment enters the area. A Compliance Report will be produced each quarter and submitted to SHA. It will track and confirm compliance with each commitment pertaining to construction, as well as track impacts to forest stands, individual trees, streams, wetland buffers, and the park.

Forest and tree resources are the most prevalent and sensitive environmental features along this corridor. Therefore, as a first order of work, team members led by our Project Landscape Architect, Diane Szekely, RLA and our Project ISA Certified Arborist, Michael McQuade, will complete an on-site assessment of forested areas and individual trees, including specimen trees, per the Roadside Landscape and Reforestation Design Performance Specifications and will complete a Tree Impact Avoidance and Minimization Report.

Mitigation for individual tree impacts will be regulated by the Roadside Tree Law, whereas impacted forested areas will be regulated by the Maryland Reforestation Law. While the RFP dictates the order of precedence for the location of reforestation (within the LOD first and off-site mitigation second), our team will make every effort, primarily through design refinements and scrutiny of all roadway, drainage, SWM, ESC, and utility relocation designs, to reduce forest impacts. It should be noted that the greatest concentration of impacts to forest resources (nearly two acres) appears to exist between Donnell Road and Forestville Road. Our team will concentrate our efforts through this section as it will afford the greatest opportunities for minimization, thereby helping to reduce.

For unavoidable impacts, mitigation design and implementation, in particular, plant species, will be in conformance with the RFP, the Reforestation Site Review Approval, and the supplied Forest Impact Plans, which also specify zones of reforestation and re-vegetation within the project limits to mitigate anticipated impacts. Design of these zones will be completed by our Project Landscape Architect, Diane Szekely, RLA, per the RFP.

The concept design has successfully minimized impacts to wetlands and Waters of the US (streams) with no temporary or permanent impacts to wetlands currently anticipated; however, further reduction of impacts to wetland buffers and Waters of the US will be a priority. Where impacts cannot be avoided through innovative design methods, protecting these resources will be paramount during construction through implementation of BMPs, such as super silt fence adjacent in wetland buffers and monitoring pump-around discharge during pipe extensions.

The Corman/WR&A Team's primary approach to protect the project's environmental features is based upon feature awareness and solid housekeeping practices. This begins at the design level with design disciplines fully invested in not only minimizing direct impacts, but also to prevent secondary impacts and to look for stewardship opportunities. For example, our water resources engineers carefully consider the placement of stormwater BMPs next to wetlands, recognizing the danger of interrupting groundwater hydrology with low pond bottoms or underdrain outlets. Design elements adjacent to environmental features are subjected to

secondary QA/QC review by design and construction personnel to ensure that all opportunities for stewardship have been employed and that secondary impacts are avoided.

The same approach applies to construction staff with everyone aware of properly demarcating environmental features and LOD by using orange construction fence, flagging, multi-lingual wetland identification signage, etc. Protecting resources is accomplished using the approved plans, constant communication and coordination with EPD, and/or an Independent Environmental Monitor (IEM), should SHA elect to assign one, and, possibly, extra protection, such as redundant sediment controls, additional fencing around trees, and timber or geosynthetic matting to prevent damage to adjacent root systems and construction equipment from becoming trapped in soft areas.

Permit Acquisition/Compliance: The key to securing, modifying, and complying with environmental permits is to understand and identify resources early and create an outline showing involved agencies and the relevant permits. Once points of contact for environmental permit stakeholders are identified, we will request a Kickoff meeting with SHA for a complete understanding of permit requirements and then maintain this level of communication from beginning to end.

Every effort will be made to reduce or minimize resource impacts with the construction team, thereby reducing or eliminating the need for modifications. Requests for modifications will be made to the appropriate SHA division before submitting to the permitting agencies.

From a critical path standpoint, the SWM/ESC permit from MDE's Plan Review Division will be the most important. We will coordinate SWM and ESC designs and reviews between MDE and SHA Hydraulics and Hydrology Division (HHD) from Notice of Award to Project Closeout. We will utilize our certified MDE reviewer, Richard Sobott, PE, to oversee and review submissions prior to being sent to MDE. Richard will oversee plan development and provide that vital check for compliance before submitting.

Upon Notice of Award, our process will include:

- Contacting SHA and MDE to set up a pre-permitting meeting to outline our approach to SWM and ESC, submission schedules, permitting timelines, and submittal requirements;
- Submitting a Concept SWM Report, along with ESC plans for the clearing and grubbing;
- Obtaining approval of any deviations from the Concept SWM Report by SHA prior to submitting to MDE;
- Submitting our SWM and ESC plans, computations, and reports concurrently to SHA HHD and MDE
- Obtaining BMP numbers for each structural BMP;
- Providing copies of correspondence to SHA as it is generated by MDE;
- Obtaining final SWM approval from SHA after approvals are granted by MDE;
- Submitting a completed NOI to satisfy NPDES general permit for construction activity -- this permit will be submitted early to obtain approval for construction for ESC and will be revised as the SWM is finalized;
- Completing As-Built SWM Certifications.

We will work to minimize environmental impacts beyond those shown in the approved Joint Permit Application and will coordinate continuously with SHA's Environmental Programs Division (EPD), MDE, USACE, and DNR. We also recognize the role that the Maryland-National Capital Parks and Planning Commission (M-NCPPC) will play regarding temporary impacts (no permanent impacts) in and around the Hartman-Berkshire Neighborhood Park at the intersection of MD 4 and Walters Avenue. We understand that coordination with M-NCPPC will be a key component of the project's permitting and compliance goals and it is a top priority.

Erosion & Sediment Control Plan and Approach: The ESC plans will address initial disturbance, interim, and final stabilization stages, and will be coordinated with the Traffic Control Plans (TCP). The phasing and sequence of construction (including grading, staging, stockpiling, and temporary/ permanent stabilization) will be coordinated to minimize soil exposure. The plans will include a designated Limit of Disturbance (LOD, with station and offset), right-of-way, contours, general notes, controls (including details), and natural resources and floodplains. Stabilized construction entrances will be installed at all site access locations. Stabilization measures will be kept in place until a vegetative cover is established. Stone check dams will ensure non-erosive velocities in ditches. Ditch lining (soil stabilization matting preferred) will be selected based on the design velocity. Measures, such as dikes and swales will divert runoff to the sediment basins (or traps). Storm drain runoff will be diverted to sediment basins during construction. Drainage and phasing will be coordinated to maintain drainage during interim conditions. For any sediment traps, basins, or stone/gabion outlet structures, the plans will specify storage volumes, cleanout elevations, dewatering devices, modification of control structures, and conversion to SWM facilities following the construction phase. Innovative measures may be developed (with SHA/MDE concurrence) to reduce the potential for erosion and to minimize construction impacts.

After review by and addressing comments by our certified MDE reviewer, Richard Sobott, PE, ESC plans will be submitted to SHA/MDE for review and approval and include complete plans, computations, and an ESC Report (including drainage area and soil maps). Computations will include volumes of earth disturbance and discharge velocities/quantities. Clearing and grading will not commence until approved by SHA/MDE and other agencies. The design will adhere to the Design Quality Control Plan (DQCP).

Stan Sutphin will act as our Erosion and Sediment Control Coordinator (ESCC) to ensure proper maintenance of the ESC devices with the superintendent. A routine schedule will be set up for inspections and meetings. Daily inspections of ESC devices will be performed by the ESCC. The superintendent will assign crews to perform the maintenance as noted in the inspections. This will include cleaning out devices, repairing silt fence and LOD fence, etc. Proactive maintenance will be performed before storm events. The ESCC will inspect immediately following a storm event and work with the superintendent to assign crews to restore compliance as quickly as possible. This process will continue throughout the project. Once the earthwork and permanent seeding is completed, inspection and maintenance will continue.

ESC compliance will be discussed at weekly schedule meetings. Key staff members of the Corman/WR&A Team regularly participate in on-site inspections with our ESCC, SHA QA inspector or MDE inspector on its projects and will suggest this procedure on this project to avoid any miscommunication. A daily log book will record reviews by the Corman/WR&A Team, SHA, MDE and IEM (if assigned).

To generate a successful program, the ESCC will develop a proactive team consisting of SHA's QA inspector, SHA's PE, SHA's ESC Jobsite Inspector, IEM (if assigned), our project-wide Environmental Compliance Manager (ECM) - James Ashby, design staff, Construction Manager, and Field Supervisors. Communication will be imperative to have a win-win ESC program. Education is a must! As such, all supervisors will hold valid "yellow card" certifications. Supervisors must know the importance and requirements of the program and understand SHA's QA field investigation report, including the three critical failure categories: 1) All permits and approvals not obtained before beginning construction activities; 2) LOD and environmental features not demarcated or construction outside of LOD; and 3) project not in conformance with the ESC plan, schedules and contract documents. Additionally, we will provide specialized training to those involved with design and those field employees performing the construction. Project employees must know and understand the importance of ESC compliance and their individual responsibility. They will be trained to recognize and report problems immediately to a supervisor.

The Corman/WR&A Team's goal is to be "A" rated for ESC compliance. This is achievable by having an effective, proactive ESC implementation program. Our ESCC will monitor and prepare reports for all ESC activities. The ESCC will coordinate with our ECM, James Ashby, and work jointly with the Field Supervisors. He has the authority to re-direct crews to attend to ESC needs. The ESCC will implement plans effectively, perform inspections, and properly install controls, in sequence, and per approved plans and permit restraints. He will inspect controls daily and keep detailed construction logs. He will coordinate maintenance of controls with the Construction Manager to assure timely repairs and maintenance of devices. The ESCC will facilitate weekly ESC compliance meetings, conduct post-storm inspections, monitor subcontractor activities for compliance, coordinate any required corrective actions, and remove controls upon stabilization and with MDE inspector approval.

Within 24 hours of an inspection by the SHA QA inspector, the ESCC will transmit the completed OOC-61 Form to the Corman Corporate Office and Executive Management as currently required of all projects.

Our design plans will minimize the LOD and we will look for ways to maintain as much existing vegetation as possible. If vegetation removal is required for construction, we will work quickly to re-establish the area with temporary or permanent vegetation by placing the appropriate soil amendments, placing topsoil, applying seed and mulch, and/or stabilization matting. Proposed paved areas will be stabilized quickly with aggregate base material. We will clearly demarcate the Limits of Disturbance, wetlands, buffers, Waters of the US, floodplains, and tree protection areas. We will be especially vigilant near cultural and environmental resources and the park. If our ESCC foresees a potential issue, he will alert the SHA PE and our ECM and designers to discuss corrective actions before the problem arises to maintain compliance.

Measures to Ensure Compliance with Commitments from the Environmental Document and with Laws related to Cultural Resources and How We will Address Any Unknown Cultural Resources if Encountered: The Corman/WR&A Team understands that protecting the environment, community, cultural resources, and parkland directly affected by the project, as well as the surrounding community as a whole, is paramount to SHA. We will continue the philosophy of environmental stewardship and avoidance/minimization of impacts to environmental features, community, and cultural resources; as well as parkland previously established by SHA.

The Corman/WR&A Team understands that protecting the environmental, community, and cultural resources for the project area and surrounding community is paramount to SHA.

James Ashby will serve as our ECM. Having worked with ECMs on many of our design-build projects, the Corman/WR&A Team knows the value of Jim as an integral part of the compliance program. He will work with our design and construction staff and the Independent Environmental Monitor (IEM), if one is assigned.

As a team member, Jim will spearhead the compliance effort with a three-phase Environmental Compliance Plan:

1. Identifying environmental responsibilities:
 - ✓ List of commitments with reference to applicable permits (USACE, MDE, DNR, M-NCPPC)
2. Design review with input for minimizing impacts:
 - ✓ Facilitate environmental commitment design issues
3. Construction compliance:

- ✓ Educate construction team on environmental permit commitments
- ✓ Require daily coordination, inspection, and documentation of construction activities for plan and permit condition compliance
- ✓ Resolve construction conflicts
- ✓ List and track commitments
- ✓ Prepare quarterly compliance reports
- ✓ Work with the ESCC and field crews to implement approved plans

Natural resources will be protected at all times and in conformance with the relevant environmental approvals, laws, and TC 3.20.07. We will design measures that maintain natural groundwater flows into Waters of the US/wetlands and preserve the source of hydrology to non-impacted wetlands. Sediment laden construction water or contaminated water from concrete wash-out pits will be treated by an MDE-approved dewatering device. Designs will include in-stream construction measures for the disturbed areas near waterways and/or stream and may include measures, such as a culvert diversion, pump around practice, sand bag diversion, or fabric stream diversion.

The ESC design will address construction sequencing, staging, access, work areas, minimum stream flow requirements, maintenance of stream flow, and post-construction restoration. We will notify SHA 48 hours in advance of in-stream work, construct only in compliance with the Maryland mandated stream closure period for Use I waters, and conduct work to avoid/minimize fish mortality. Prior to any earth disturbing activity, we will stakeout and demarcate the LOD throughout the project. In areas adjacent to non-impacted wetlands and their buffers, temporary orange safety fence and prohibitive signage will be installed along the LOD and/or right-of-way. Construction personnel will be alerted to these designated protection areas and the importance of staying inside the LOD. Any specimen trees near or just outside the LOD will be provided with a buffer to avoid its removal or damage during clearing and grubbing. Our arborist will be consulted in these areas. We will stabilize and re-vegetate any land disturbed by construction as soon as practical after construction is completed.

We will abide by the Memorandum of Agreement between SHA, the Federal Highway Administration, and the Maryland State Historic Preservation Officer regarding preservation of cultural resources. In the event that previously unidentified archeological resources are discovered during ground disturbing activities, we will immediately notify the SHA Project Engineer.

Techniques, Products, Practices or Innovation that We Propose to Incorporate into this Project to Protect Environmental Resources and to Reduce Impacts to Environmental Features, Waste, or Pollution: With environmental stewardship as one of our core values, Corman has many environmental initiatives in place. At our main office, Corman:

- Recycles paper, metal, plastic, and glass, through a “single stream” recycling program;
- Burns waste oil to heat the office and shop buildings;
- Uses recycled paper and implements reduce/reuse/minimize strategies;
- Recycles obsolete electronic devices;
- Has used clothing donation programs;
- Uses a Cloud-based electronic file management system to eliminate paper copies of most project documents; and
- Submits plans, specifications, and estimates to SHA via ProjectWise.

On this project Corman will:

- Balance cut / fills to reduce off site hauling of materials and spoil material disposal;
- Use ultra-low sulfur fuel;
- Use bio-degradable oils for equipment;
- Use Tier 2 and 3 equipment;
- Salvage and re-use piling/form systems/form liners/timber mats/steel beams/guardrail/railing on subsequent projects as appropriate;
- Reuse or sell timber and chips from clearing;
- Recycle demolition concrete;
- Recycle millings;
- Use recycled concrete for stone construction entrances and haul roads;
- Use the water from dewatered ponds to control dust were appropriate; and
- Send submittals electronically to save paper.

These efforts will be reviewed regularly by executive management, and field and office staff are encouraged to provide suggestions that further enhance our Environmental Stewardship program.

Finally, throughout the design of all our projects, WR&A regularly looks for opportunities to avoid, minimize, and mitigate impacts to environmental resources. Our design staff is aware of the need to minimize the LOD adjacent to environmental features. LOD can often times be minimized using innovative techniques, such as fiber logs instead of diversion berms or silt fence.

B. ENVIRONMENTAL PAST PERFORMANCE

Project Specific Techniques, Products, and Practices Incorporate into Past Projects which Resulted in a Reduction in Impacts to Environmental Features or a Reduction to Waste, or Pollution. Identify if They Were Owner Directed or Suggested by Our Team Members.

Successful approach to sensitive environmental features on past projects: Corman was pivotal in several Maryland projects driven by environmental protection, enhancement, issues, and restrictions. To date, Maryland's most environmentally-sensitive project is the **Design-Build Intercounty Connector (ICC)**. Corman was a construction joint venture partner for Contracts A and B where environmental restrictions defined the projects. The following are techniques and procedures that our design-build team initiated to reduce environmental impacts, waste, and/or pollution:

- Design/construction of high headwalls on major culverts to minimize stream impacts;
- Used MSE walls, retaining walls, and fan walls to minimize impacts;
- Underground SWM for protection from thermal impacts to Special Protection Areas;
- Spill protection in ditches and SWM facilities;
- Drilled shaft foundations to reduce impacts in Special Protection Areas;
- Avoided hauling on local roadways to minimize dust and tracking mud;
- Used geo-grid, wood chip, and aggregate system for haul roads through wetlands;
- Installed ESC in Special Protection Areas;
- Provided habitat awareness training for the workforce;
- On-site same day slope stabilization;
- Evaluated over 1,400 specimen trees, saving 225 trees;
- Used flocculants to reduce turbidity of sediment laden water;
- Used earth berms for noise abatement;
- Measured and managed noise/dust/mud tracking;
- Community sensitivity/awareness through Public Relations;

- Monitored and protected water quality using telemetry sensors in streams; and
- Median/right-of-way width reductions via innovative SWM and geometry improvements.

Others include phased roadway construction to minimize ESC bumpouts, top-down construction of structures, footprint reduction using alternative construction techniques, ESC BMPs that reduce width such as fence diversions instead of berm diversions, and lined concrete washout pits.

A close second for environmentally-driven SHA projects is the **Design-Build MD 30 Hampstead Bypass** project. We eliminated a noise barrier and replaced it with an earth berm reducing concrete wall production/transportation and pulled in the LOD to minimize disturbances and clearing. We also initiated a full-time ESC Coordinator resulting in an average ESC environmental quality assurance rating of 97.34%.

Design-Build MD 216 US 29 to I-95 in Howard County is another SHA/Corman project that initiated innovative techniques to minimize impacts. A bifurcated roadway was constructed to reduce earthwork minimizing wetlands and buffer impacts while reducing truck traffic. Clean water diversion ditches were used for larger drainage areas to bypass the construction zone.

On the **I-95/I-695 Interchange Section 100** project in Baltimore, Maryland, Corman devised a plan to use a Rain for Rent dewatering system to treat sediment laden water from an existing sediment basin for discharge into Moores Run. This allowed the leaky riser structure in the basin releasing “untreated” water into Moores Run to be repaired. It treated approximately 160 gallons per minute and the leaky riser was repaired within one week. Utilization of this system has since become the norm on SHA projects.

Correction of deficiencies on past projects:

1. A stop work order was issued on the Design-Build MD 216 project until all erosion and sediment problems in the box culvert area were corrected. Water was being pumped into a sump pit from the work area, and then pumped into the adjacent woods without an approved sediment control device. During the inspection, the water appeared to be clear, but the device was necessary and required as agreed to by all parties. The problem was remedied that day and work resumed the next day. ***HOW WE ADDRESSED IT:*** Additional management practices were instituted for the remainder of the project, which lasted an additional two years, and consisted of the following:

- Weekly ESC meetings in the contractor’s field office with the Environmental Monitor, Construction Manager, DB Manager, Superintendent, ESC Coordinator, SHA Inspection Staff, DB Designer as needed, and MDE Inspector and SHA QA Inspector, if available.
- Briefings with Contractor after QA inspections to discuss current conditions.
- Teamwork between SHA and Contractor for walk-thru inspections after storm events.
- Contractor involvement with SHA Team to study future modifications to ESC specifications and training requirements.
- Raised company-wide environmental awareness for environmental stewardship.

These practices benefitted all parties involved for the remainder of the project.

2. On the MD Rowe Boulevard project, we received a repeat non-compliance item on the Quality Assurance Report that was not corrected within the allowable time. ***HOW WE ADDRESSED IT:*** We implemented an Erosion and Sediment Controls – Self Inspection Policy requirement within the company and instituted a policy that required projects to email copies of independent SHA or outside agency inspections to upper management the same day the report is received. A Ratings Log is also now reviewed by upper management.

3. Design-Build Intercounty Connector, Contract A: (a) A stop work order was issued for working out of sequence when demolishing homes. ESC were in place, but the subcontractor started in the wrong order. **HOW WE ADDRESSED IT:** The design-build team quickly implemented a new policy requiring subcontractors to review MDE sequence of work with a Field Engineer upon commencing. (b) A penalty was issued for erosion caused by a washout from a 20" water main break. **HOW WE ADDRESSED IT:** Additional care was given during future utility relocations. (c) A stop work order was issued for working out of sequence when repairing a culvert headwall. **HOW WE ADDRESSED IT:** Issue was corrected immediately and implemented a new procedure with ECM for work areas around streams.
4. On Design-Build Intercounty Connector Contract B, a stop work order was issued for working out of sequence. **HOW WE ADDRESSED IT:** Corrected issue immediately and implemented a new procedure where ESCC kept a copy of the Sequence of Construction (SOC) from the plan and initialed off on each stage before proceeding. The jobsite Project Management Team held a stand-down which heightened awareness of the environmental programs.
5. I-695/I-95 Interchange in Baltimore, MD: (a) Penalty for sediment washing onto a sidewalk from a damaged super silt fence. **HOW WE ADDRESSED IT:** Directed to inspect ESC devices daily. (b) Penalty for failing to monitor dewatering from a tanker truck. How we addressed it: Use Rain for Rent dirt bags for future pumping/dewatering and pumping requires strict pumping work plans and management approval before commencing.

Addressing these issues resulted in Corman adopting these practices/requirements on all our projects:

1. Review SOC requirements with all supervisors and subcontractors;
2. Review of in-house requirements for daily self-inspections was made and reiterated; and
3. ESC requirements are reviewed by the Project Management Team with field supervisors to make sure processes are in place and understood.

Now on the flip side, Corman's environmental ratings below are a testament to our commitment to providing owners, communities, and our employees environmental compliant worksites.

Project	Total A's	Total B's	Total A's & B's	Total # of	
				Ratings	Completed
DB MD 216 US 29 to I-95	5	16	21	28	2005
DB MD 30 Hampstead Bypass	76	5	81	81	2009
DB I-70, Phase 2D	49	10	59	71	Ongoing
DB TMDL Stormwater Facility Enhancements	1	0	1	1	Ongoing
DB Intercounty Connector A	147	56	203	208	2011
DB Intercounty Connector B	87	56	143	145	2011
Fish Passage Rock Creek	24	2	26	27	2012

We are proud to make this statement: *As shown in the above table, over 95% of our total rankings on these projects were A's and B's.*

Overall, Corman has taken each infraction and readjusted our environmental focus to raise the bar. We pride ourselves as we continue to achieve excellent ratings.

