

Solicited Proposal | September 26, 2011

# Design-Build Conceptual PPTA Proposal Minnieville Road and Route 1 Improvement Projects



Submitted to:



## Prince William County Purchasing Division

1 County Complex Court MC460 | Prince William County, VA 22192  
Attn: Carolyn Mohaupt, Contract Specialist III

Submitted by:

# LANE

14500 Avion Parkway  
Suite 200  
Chantilly, VA 20151

In Association with:



**GREENHORNE & O'MARA**  
CONSULTING ENGINEERS  
*Inspired Solutions, Improving Lives*



September 26, 2011

Ms. Carolyn Mohaupt  
Contract Specialist III  
Prince William County Purchasing  
1 County Complex Court (MC460)  
Prince William, VA 22192-9201

Reference: **PPTA - Minnieville Road and Route 1 Improvement Projects**

Dear Ms. Mohaupt:

**The Lane Construction Corporation** is pleased to respond to Prince William County's Notice of Receipt of Unsolicited Proposal for the above referenced projects dated August 12, 2011. As requested in the notice. As requested, enclosed are ten (10) hard copies of our proposal, one (1) CD containing entire proposal, one (1) CD containing redacted proposal and a check in the amount of \$5,000.00

Lane's recent design-build (D-B) projects include the \$61 Million interstate reconstruction contract for NCDOT on Interstate 77 at Yadkin, NC, a \$27 Million interchange on Arena Drive and I-95 in Maryland for MDOT, and the \$36 Million widening project for MDOT on Rte. 237 in St. Mary's County, Maryland. Virginia projects include a \$13 Million upgrade to Route 50 at Gilbert's Corner, the \$28 Million Sudley Manor project for VDOT, and the current \$1.5 Billion P3 I-495 HOT Lanes Project.

Lane is well positioned through experience, reputation and past performance to maintain its role as a leader in the construction of our nation's highways, bridges, airports, railroads and mass transit systems. Lane is also a current member of the Design-Build Institute of America (DBIA).

With our Lead Designer, **Greenhorne & O'Mara, Inc. (G&O)**, we provide unparalleled design-build transportation expertise as well as specific Prince William County experience which we will employ to successfully complete these critically important projects.

Our team stands ready to see these projects through to a successful completion. If you require additional information, please feel free to call me directly at 703.222.5670.

Sincerely,

**THE LANE CONSTRUCTION CORPORATION**

Richard McDonough  
District Manager



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# **I. QUALIFICATIONS & EXPERIENCE**

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# I. QUALIFICATIONS & EXPERIENCE

## Introduction

The **Lane Construction Corporation (Lane)** is pleased to submit this competing proposal for the design and construction of the Minnieville Road and Route 1 improvement projects to **Prince William County** in accordance with the applicable PPTA guidelines and the County’s posted advertisement dated August 12, 2011. With our Lead Designer, **Greenhorne & O’Mara, Inc. (G&O)**, we provide unparalleled design-build transportation expertise as well as specific **Prince William County** experience which we will employ to successfully complete these critically important projects.

**Lane’s** recent design-build (D-B) projects include the \$61 Million interstate reconstruction contract for NCDOT on Interstate 77 at Yadkin, NC, a \$27 Million interchange on Arena Drive and I-95 in Maryland for MDOT, and the \$36 Million widening project for MDOT on Rte. 237 in St. Mary’s County, Maryland. Virginia projects include a \$13 Million upgrade to Route 50 at Gilbert’s Corner, the \$28 Million Sudley Manor project for VDOT, and the current \$1.5 Billion P3 I-495 HOT Lanes Project.

**Lane** is well positioned through experience, reputation and past performance to maintain its role as a leader in the construction of our nation’s highways, bridges, airports, railroads and mass transit systems. **Lane** is also a current member of the Design-Build Institute of America (DBIA).

This proposal has been prepared in conformance with **Prince William County** Purchasing Regulations. All information contained within this proposal has been organized to address the specific questions outlined within the regulations and to provide exceptional facilities to **Prince William County** and its citizens with minimal inconvenience during the construction process.

## A. Team Structure and Management Approach

*1(a) Identify the legal structure of the firm or consortium of firms making the proposal. Identify the organizational structure for the project, the management approach and how each partner and major subcontractor in the structure fits into the overall team.*

### 1) Legal Structure

The **Lane Construction Corporation** will be the sole legal entity and the Design-Builder with whom an eventual contract will be executed. **Lane** is a privately held company founded in 1890 by railroad engineer John S. Lane. The company was incorporated in the state of Connecticut in 1902. Today, **Lane** completes more than \$1 billion of work each year in more than 20 states. In 2011, **Lane** was ranked by ENR (Engineering News Record) in several categories.

Lane’s 2011 Engineering News Record Ranking	
#36	“Top 100 Contractors by New Contracts”
#8	“Top 20 Transportation Contractors in the U.S.”
#8	“Top 50 Heavy Domestic Contractors in the U.S.”
#4	“Top Highway Contractors in the U.S.”
#50	“Top 400 Contractors in the U.S.”



# Design-Build Conceptual PPTA Proposal

## MINNIEVILLE ROAD AND ROUTE 1 IMPROVEMENT PROJECTS



Lane's corporate structure is as follows. Management of this project will be administered through Lane's Virginia Regional office located in Chantilly, Virginia.

**Corporate Office**  
 90 Fieldstone Court  
 Cheshire, CT 06410  
 203. 235. 3351  
 203.237.4260 (Fax)

### Regional Offices

South-Southwest	Northeast	Mid-Atlantic	Mid-South
<p><i>Central Florida Office</i>            2601 Maitland Center Parkway            Maitland, FL 32751            407.331.3100            407.331.3614 (Fax)</p>	<p><i>Maine Office</i>            953 Odlin Road            Bangor, ME 04401            207.945.0873            207.945.0874 (Fax)</p>	<p><i>Pittsburgh Office</i>            2 Prestley Road            Bridgeville, PA 15017            412.838.0251            412.838.0260 (Fax)</p>	<p><i>North Carolina Office</i>            6135 Park South Drive            Suite 400            Charlotte, NC 28210            704.553.6500            704.553.6599 (Fax)</p>
<p><i>Texas Office</i>            11801 Harmonson Road            Justin, TX 76247            940.648.2741            940.648.2203 (Fax)            817.430.0522 (metro)</p>	<p><i>Massachusetts Office</i>            243 King Street            Suite 239            Northampton, MA 01060            413.341.5551            413.341.5558 (Fax)</p>	<p><i>Virginia Office</i>            14500 Avion Parkway            Suite 200            Chantilly, VA 20151            703.222.5670            703.222.5960 (Fax)</p>	

### Lane Divisions

<p><b>Cold River Materials</b>            New Hampshire</p>	<p><b>Sunquip</b>            Maine</p>
<p><b>Senate Asphalt</b>            Washington D.C.</p>	<p><b>Wardell</b>            Maine</p>
<p><b>Virginia Paving Company</b>            Virginia</p>	<p><b>Rhea Contracting</b>            North Carolina, South Carolina</p>
<p><b>Virginia Sign &amp; Lighting Company</b>            Virginia</p>	<p><b>Sunrise Materials</b>            Maine</p>
<p><b>Prestress of the Carolinas</b>            North Carolina</p>	<p><b>White Brothers</b>            Maine</p>

Joining the Lane Team as the **Lead Designer** for the project is **Greenhorne & O'Mara, Inc.**, a Maryland-based consulting engineering firm with three offices in Virginia. **G&O** has had a significant role in development of infrastructure and transportation facilities in the Washington Metro area and the east coast of the United States throughout their 61-year history. **G&O** will subcontract directly with **Lane**. Lower tier design contracts will be executed between **G&O** and subconsultants as required.

### 2) Organizational Structure

The successful completion of these projects is our primary objective. We define success as a quality, safe, environmentally compliant, and fully functioning, transportation facility delivered on time, within budget, and with minimal impact to surrounding community and environment, while satisfying **Prince William County's** requirements. We have developed an organization that will deliver a successful project to **Prince William County** comprised of firms and individuals with extensive experience in delivery of PPTA and design-build projects. We will hit the ground running with an efficient, well-organized team that will work in partnership with **Prince William County** to meet these projects' goals and objectives.

The partnership of **Lane** and **G&O** brings together a team of individuals that combine unmatched highway design, construction expertise and **Prince William County** experience. The organizational structure we present is ideally suited to deliver successful completion of the projects that are the subject of this proposal.

Through our recent past experience, we have found that for a PPTA/design-build project of this size and complexity, three management levels within various functional teams provide for an effective management organization. They are:

	<ul style="list-style-type: none"> <li>• Negotiate &amp; Execute Contract</li> <li>• Input to Project Objectives</li> <li>• Project Review</li> <li>• ROW Acquisition Approval</li> </ul>
	<ul style="list-style-type: none"> <li>• Negotiate &amp; Execute Contract</li> <li>• Overall Project Management</li> <li>• Budget &amp; Schedule Control</li> <li>• Contract Administration</li> <li>• QA/QC</li> <li>• Construction Execution</li> </ul>
	<ul style="list-style-type: none"> <li>• Project Design</li> <li>• ROW Negotiations</li> <li>• Utility Coordination</li> <li>• Permitting</li> <li>• CEI</li> </ul>



An organization chart depicting our proposed levels of management, lines of reporting between the team members, and key staff proposed for this project is included in the following page. Further discussion of the management team and responsibilities are included below and in the following section of this proposal.

### The Lane Construction Corporation

As the leader of this endeavor, **Lane** will manage all project related tasks required for successful project completion. **Lane** will be responsible for working with **Prince William County** to negotiate the final project scope, project cost and project schedule as well as the final contract. During the execution of the contract, **Lane's** responsibilities will include overall project management, budget and schedule control, contract administration, implementation of our quality assurance/quality control plan, and physical construction of the subject improvements.

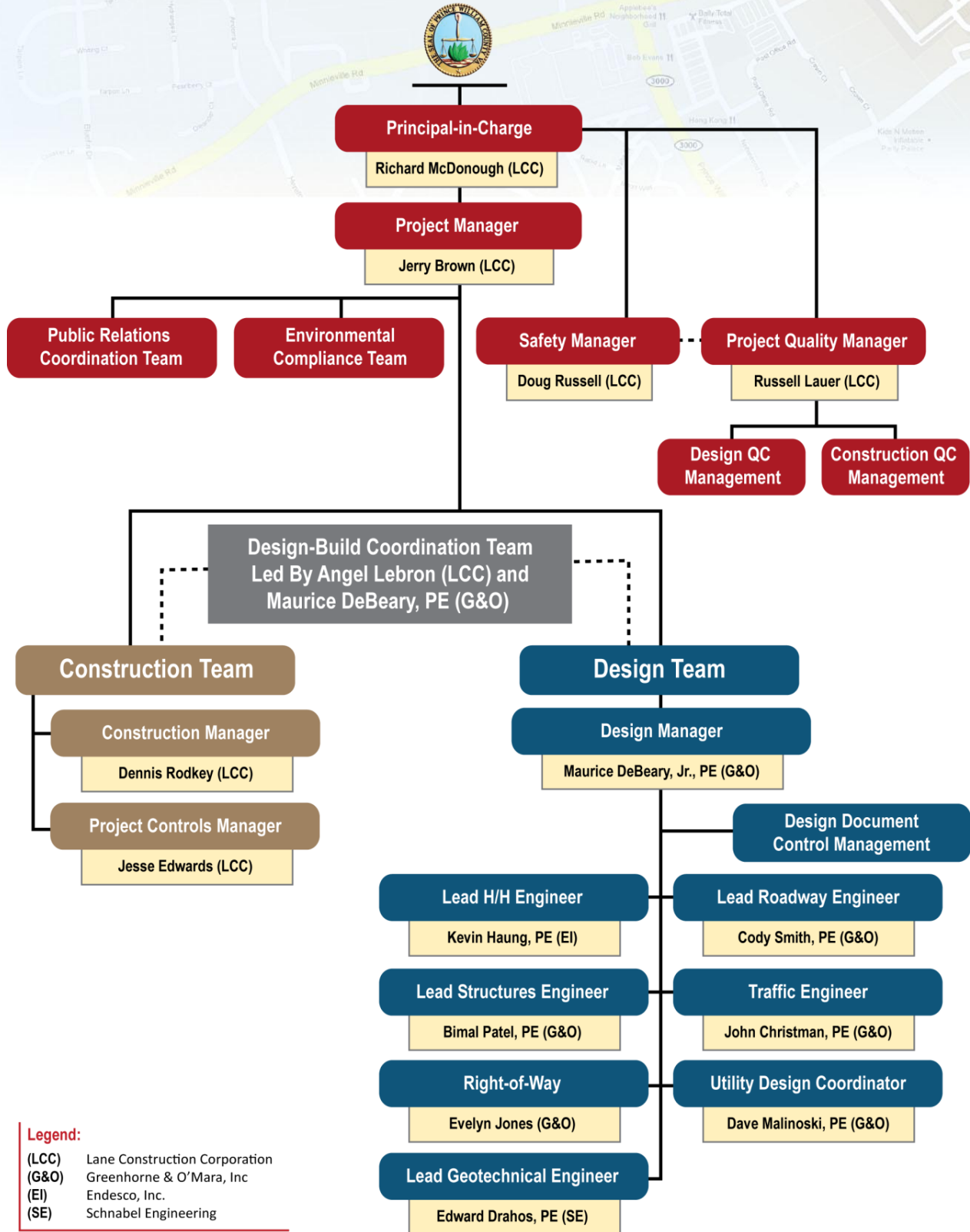
### Greenhorne & O'Mara, Inc.

**G&O** will be responsible for project design, right-of-way (ROW) acquisition, utility coordination and relocation design, design QA/QC, permitting and construction engineering and inspection. Complementing **G&O's** national and local design experience will be several local design subconsultants, two of which are identified in this proposal. **Endesco, Inc.**, a local Virginia DBE firm will provide hydrology/hydraulics and drainage design support services while **Schnabel Engineering**, a national geotechnical engineering firm with local offices in Virginia, will provide subsurface exploration and geotechnical engineering services. **G&O** has a track record of successful projects working with both of these firms in Virginia and Washington Metropolitan area over the past decade. All design subconsultants will be under direct contract with **G&O** for this project.



A chart depicting our organization structure for the project is included on the following page.

### 3) Team Organization Chart



**Legend:**  
 (LCC) Lane Construction Corporation  
 (G&O) Greenhorne & O'Mara, Inc  
 (EI) Endesco, Inc.  
 (SE) Schnabel Engineering





### 4) Management Team

Over the past several years, **Lane** and **G&O** have individually had the opportunity to work with **Prince William County** on a multitude of projects including the widening of Linton Hall Road, Sudley Manor Drive Extended, the Potomac River Commuter Ferry Study, Innovation at Prince William and the Dale Boulevard/Benita Fitzgerald Drive intersection improvements. In addition, **Lane** and **G&O** have partnered on several design-build/PPTA projects in Virginia and other states, the most recent experience is the \$1.5 Billion I-495 (Capital Beltway) HOT Lanes PPTA project. Through this experience, as well as the experience of several of our key staff working directly for **Prince William County**, our Team has gained valuable insight into some of the “values” **Prince William County** holds in high regard to include **accountability, efficiency, responsiveness, timeliness** and **quality**.

Our management team and approach to this project is specifically tailored to uphold the above-mentioned values and to meet the unique needs of **Prince William County** as outlined in the callout box to the right. Further discussion of the specific components of our management team and approach is delineated below.

**Lane** will be the design-builder responsible for the design and construction of this project. Leading the **Lane** Team at the Executive Management Level is **Rich McDonough**, a District Manager at **Lane**, serving as the **Project Principal**; and **Jerry Brown**, a Senior Project Manager at **Lane**, serving as the **Project Manager**. Jerry has 37 years of experience in the construction industry, all with **Lane**. His recent experience is in the \$1.5 billion I-495 (Capital Beltway) HOT Lanes project for VDOT.

Jerry will be responsible for the overall management of the project and will oversee the design and construction activities as well as environmental compliance, safety and public relations teams. Jerry will be our Team’s primary point of contact with **Prince William County** and will report directly to Rich McDonough. Jerry will be responsible for coordinating with our design and construction managers to establish project scopes, budgets and schedules. Working with **Prince William County**, Jerry will assist Rich for the negotiation and establishment of the overall contract agreement.

**Dennis Rodkey** will serve as the **Construction Manager** for this project. Dennis has 37 years construction experience and has brought a strong management value to each project he has been assigned to. He has been assigned to Lane’s Mid-Atlantic region for over ten years and has served on numerous projects at the Washington Dulles International Airport. Dennis has served on a number of Virginia Department of Transportation projects and is well versed in the operations of a VDOT roadway project. Dennis will be responsible for implementing and maintaining site safety rules and regulations, conducting safety meetings, quality control, site supervision of various trade personnel, coordination of subcontractors, and adhering to the project schedule and budget.

Dennis will work in concert with our **Project Controls Manager, Jesse Edwards**. Jesse has 40 years of experience in highway construction and site development. He held previous positions at VDOT including Inspector, Project Engineer and Assistant Resident Engineer. Before joining Lane, he served as a Contractor Scheduling Engineer/Manager on various Interstate Highway construction projects in Northern Virginia. Jesse’s

#### The Lane Management Approach provides a framework that...

...focuses on our project team’s accountability to Prince William County and each other.

...focuses on maximizing efficiency in all aspects of the project.

...places the highest emphasis on safety.

...focuses on timeliness and the adherence to the project schedule.

...ensures a strong dedication to quality.

...emphasizes the importance of responsiveness in all aspects of the project.

...specifically meets the anticipated needs of Prince William County throughout the term of this Contract

...is commensurate with the level of anticipated complexity of this contract



scheduling experience includes preparation and analysis of contractor CPM schedules. He will be responsible for reviewing the plans and scheduling specifications, as well as inserting the necessary logic into Primavera. **Greenhorne & O'Mara, Inc.** will serve as the Lead Design Engineer under direct subcontract with **Lane**. **Maurice DeBeary, PE**, a Project Director at **G&O**, will serve as the **Design Manager** for this project at the Project Execution Level. Maurice has 27 years of experience and has managed major transportation projects including in those involving Design-Build method of delivery in Virginia and Washington-Metro area. He will be the individual in charge of all design activities and will be responsible for design and financial management, monitoring and control of design activities, interfacing with and coordinating with environmental compliance, quality control and construction teams, and design subconsultants management. Assisting Maurice and leading the highway design discipline for this project will be **Cody Smith, PE**. With 14 years of experience in civil design, Cody brings a wealth of local knowledge, particularly in **Prince William County**, to the project. Working with Maurice, Cody will directly manage all G&O roadway design efforts.

**QC Team.** At the Project Management Level, **Russell Lauer** of **Lane** will serve as our **Project Quality Manager** and will report directly to our Project Principal on this project. Russell has 16 years construction experience and will be responsible for development, implementing and monitoring of our Quality Program for the project. Responsibilities will include daily documentation of testing and certification up to AOC standards, submittal review, coordination of phase control, conducting weekly QC meetings, subcontractor coordination, as-built coordination, and project punch out. We will assign a Design Quality Control Manager and a Construction Quality Control Manager from **G&O** who will report directly to Russell and assist him in the development, implementation and monitoring of our Quality Program.

**Safety Manager.** **Doug Russell**, Safety Supervisor for **Lane** will lead our Safety Team and will report directly to the Project Principal, Rich McDonough. Doug has nearly 40 years of construction experience and will direct and administer our safety program for the entire project. He will work in concert with our Project Manager, Construction Manager, and Project Quality Manager and will ensure that proper documentation, reporting, and training requirements for the project are met. The Project Manager will enforce implementation of **Lane's** Safety Plan, and ensure that the project is constructed and maintained safely. The Project Principle will ensure that all necessary resources are available to the Safety Manager; support, monitor and enforce the **Lane's** Safety Plan.

**Environmental Compliance Team.** At the Project Management Level, the Environmental Compliance Team will be composed of professional and scientist who will lead our team's efforts in the avoidance and mitigation of any environmental impacts associated with these projects. Led by Liz Estes, our team's Virginia regulatory experience will be invaluable for these projects.

**Public Relations Team.** Our public relations team will include Cody Smith who has recent relevant experience working with Prince William County to coordinate a large public relations effort as part of the Potomac River Commuter Ferry Study. In addition to Cody, key public relations staff including graphic designers and planners from our corporate office will be available to meet whatever public relations needs that arise as part of each project.

**Design-Build Coordination Team.** In order to have a seamless integration of design and construction so that all activities are conducted in an interactive environment, the **Lane** Team will form a task force comprised of individuals from both design and construction disciplines. Leading this task force will be **Angel Lebron** of **Lane** assisted by Maurice DeBeary, our **G&O** Design Manager. Angel has 14 years construction experience and has worked on a variety of projects including highways, airports and federal projects. He is bilingual in Spanish and English and holds a VDOT/VTCA Erosion & Sediment Control Contractor Certification and a Virginia Land Disturber Certification. This team's specific task will be to ensure the seamless transition of each project from its design to construction phase.



The resumes of the key management members detailing their qualifications and experience are included in Section I.B of this proposal.

### 5) Management Approach

**Lane** has established a comprehensive organization and management strategy to address design, quality, environmental compliance, and construction of this project. We understand the project requirements and have assembled a team of professionals who will work in partnership with **Prince William County** to complete this project on-time and within budget, to the full satisfaction of the **Prince William County**. Our project management strategy will create an environment by which responsibilities and authority is clearly defined; teamwork is fostered; and design, construction, and other functions are integrated for a unified approach to the project design and construction.

During the execution of this contract, our team will employ several important tools and techniques to manage the work. These tools and techniques have been developed as a result of our team’s unmatched experience in designing and constructing important transportation projects. The following paragraphs discuss some of the more important tools and techniques to be utilized as part of this project.

#### (5.a) Design Management

**G&O** will lead the design team for **Lane** on this project. Based on our Team’s experience in the past design-build projects and lessons learned from them, we have developed and refined a process for design management that will be implemented for this project. Appropriate and timely staffing of the project will be one of the key factors in successfully completing the design on this project. We have assembled key and production design staff with significant experience in delivery of design-build projects involving major highway and structures. In addition to our key managers and staff, we are committed and will make available, as needed, experienced personnel from our combined resources of more than 300 engineers, scientists and technicians located locally. Below is an outline of our design management concept.

- ▶ The majority of our design staff will locate to **G&O’s** local office in Chantilly, VA. This office is located centrally to the project site and approximately two miles from **Lane’s** office. Having all of the design staff located in a single office will facilitate integration between the disciplines.
- ▶ At the initiation of the project, Our Project Manager, Jerry Brown, and Project Quality Manager, Russell Lauer, with assistance from our Design and Construction Managers, will develop a Project Management Plan (PMP) documenting specific requirements, policies, procedures, quality control program (QCP), and safety program, for the project. We will submit this document to **Prince William County** for review and approval. The approved document will be distributed to the Team, including, subconsultants and it will include, but not be limited to overall project goals and objectives; overall scope of services; administrative procedures including, document control, correspondence, reporting, invoicing, etc.; list of key contact information for the project team including those at the **Prince William County** and other involved agencies; a Project-Specific Quality Control Plan and; memorandums, directives, etc. from the project team, **Prince William County**, and other agencies, as applicable.
- ▶ We have established **SharePoint** as our primary transfer tool during the proposal preparation phase. All team members have access to SharePoint with individual secure password. A directory is established for each firm and discipline where the information is uploaded. For security and document control, all firms and disciplines may not have access to all directories and files. We have assigned *Design Document Control Manager* who is responsible for organization and document controls in the system for this project. An e-mail group for various disciplines and the Team is also established. The electronic procedures to control all document and data for the project will include, but not limited to: list of distribution and revisions; quality control document and updates; limited access/controlled documents; external documents; plans and controls; calculations and controls; checked documents and

controls, software requirements including latest revisions; specifications; construction testing, inspection, etc. records; and equipment, as needed.

In order to properly control the flow of the documents and ascertain that **Lane** and the **Prince William County** have the latest version of the documents to review, we will establish an appropriate naming convention for plans, reports, etc. as well as appropriate directories in the SharePoint. For example, we will establish folders for Drawings PDF, Design Calculations, QC Drawing Check Prints, etc. All submittal uploads will be in PDF format such that accidental changes will not take place altering the documents. All submittals will be coordinated by our *Design Document Control Manager*.

- ▶ One of the advantages of a design-build project is that it allows the design team the opportunity to blend and interact with, and obtain input from, the construction personnel early in the design process. The **Lane** Team has already implemented this process during the development of this proposal. Our Project Manager, Design Manager, Construction Manager, Lead Highway Engineer and other design and construction staff have worked closely together, under one roof, in the early stages of this proposal preparation process to identify major technical elements and risk factors, and to develop a schedule and rough costs in order to ensure we will be able to provide the services within the time frame proposed for this project. We will continue this strategy of design/construction staff interaction and teamwork throughout the design and construction phases of the project. As dedicated team members of this project, we will take advantage of each other's expertise.
- ▶ Our Design Manager and Design-Build Coordinator will lead the efforts of coordinating the design and construction activities. They will attend coordination meetings held by the designers and construction staff and will be fully aware of any issues related to schedules and technical matters which, in turn, will disseminate to each of the production teams, respectively.
- ▶ We will maintain continuous interaction and communication between the design, construction, safety, quality control including the environmental compliance teams, as well as with **Prince William County**. We will work as a cohesive "unit" and share information freely and as needed. This will allow us to come up with innovative solutions to potential problems, maintain safe construction activities, as well as provide the most cost-effective design and construction methods.
- ▶ Effective project control is essential for any project but it is critical in a design-build project. We will establish electronic documented procedures to control all documents and data. We will prepare a comprehensive, integrated design and construction schedule for the project. For design tasks, the schedule to include subtask at appropriate levels. We will input the tasks and subtasks into **G&O's** in-house accounting and project management software – Costpoint – to document and track the budget, expenditures, and progress of all design tasks. This system tracks the completion rate of all work elements on each design task at the lowest level of the subtask and rolls to the established deliverables and design packages. The system uses the *Earned Value* method to report progress independent of the amount of money spent and can be updated weekly. With weekly updates, our Design Manager can identify potential problems and take corrective actions as needed.
- ▶ Environmental compliance begins with each discipline lead making sure that all project commitments and environmental constraints are met. This begins with the environmental compliance team's preparation of a checklist of all commitments and environmental constraints that need to be met. This list will be shared with the entire team prior to the start of the design. Prior to each submittal, the environmental compliance team will perform a thorough review to ensure compliance.
- ▶ We will ensure integration of design, construction and the **Prince William County's** staff to obtain input in the development of design.
- ▶ Along with our Design Manager, Construction Manager, and Design-Build Coordinator, we will assign key individuals (at least one from each function) to help them coordinate and interface between design and construction functions. This group will meet weekly at the local office with and will focus on coordination of technical and constructability issues, established schedules, priorities, quality, and conformance with the



contract requirements. **Prince William County's** staff will also be invited to our weekly meeting, as required. For consistency, efficiency and uniformity, we will use **Prince William County's** and **VDOT's** standards, guidelines and procedures to develop design and plans.

- ▶ During design, emphasis will be placed on advancing plans quickly to 30% completion stage to allow for early construction pricing. In addition, the 30% design completion stage will be the first stage at which the plans undergo a constructability review.
- ▶ Throughout the design components of this project, careful consideration will be given to maximizing project value, ensuring schedule adherence and addressing specific project issues such as minimizing right-of-way takes, ensuring accessibility and avoiding utility relocations.

### (5.b) Construction Management

Lane is noted for having a solid reputation for completing complex projects on time and often ahead of schedule. As the prime contractor, Lane's concern for construction quality and project scheduling is complemented by one of the best safety experience records in the industry. To successfully complete this endeavor, the Lane Team will staff the project with qualified personnel who are knowledgeable of the work, required standards, and local resources. The project team will establish and maintain channels of communication to ensure an integrated construction process that promotes the concept of partnering with all parties, including Prince William County and any other agencies that may be affected by the project.

The construction approach developed by the Lane Team for this D-B project takes maximum advantage of placing the entire construction effort into one responsible entity. The Lane Team incorporates lessons learned from other D-B projects, implements operations and maintenance controls, and emphasizes the unique qualifications of the members of the entire team. The Lane Team's construction approach offers the following advantages:

- ▶ The top-down prime-sub organization is traditionally the most direct, accountable, and functional for total project management.
- ▶ Management layers are minimized with Lane as the prime contractor, not only by managing the entire project, but also by self-performing critical portions of the construction activities to ensure timely overall completion.
- ▶ First-tier subcontracts are developed with local companies whose long-term core businesses and industry leadership extend across the key specialties necessary to deliver the project.
- ▶ The Lane Team will use management techniques and systems such as cost control and scheduling methods that have been developed through years of experience and are continuously fine-tuned and updated.

**Lane** has a talented staff of construction professionals with significant experience in the construction of large, complex highway projects. **Lane's** construction staff has the experience and knowledge to make field decisions, and are empowered and encouraged to resolve issues at the lowest practical level, as this maintains continuity of operation, while also developing and encouraging partnership of field staff. **Lane's** key field staff will be involved through the design process, and will be fully aware of project issues. During the design stage of each road improvement project, our construction team will work closely with the design team to ensure that roadway improvement plans are constructible, maximize value and are efficient.

**Lane** recognizes that construction projects present challenges that will not be realized until they are critical to the success of the project, and as such, a defined structure must be in place to manage timely resolution of issues. Accordingly, **Lane** will champion the Partnership process, and draw from our successful partnerships experiences. The **Lane** Team recognizes that each Project Partner brings different strengths and relationships to the table that will be required to ensure that the project meets all parties' expectation of providing a safe project with quality, on time and on budget.



**Lane** will proactively manage the schedule as a key tool to bringing the project in on time and budget. As issues that could negatively affect the project are identified and defined, “fragnets” will be inserted into the Project Schedule for impact mitigation analysis to provide **Lane** Management with the information required to make sound decisions to regain the project schedule. **Lane** recognizes that on linear projects, such as these projects, early resolution and mitigation of issues, with minor accelerations of critical areas where necessary, generally provide the most cost effective solution. Accordingly, as an integral Project Partner, the **Lane** Team will invest the time and resource to work with **Prince William County** and other Project Shareholders to ensure a timely and cost effective solution is implemented.

Constructability reviews will be performed on each improvement project at three stages of development, **30%, 60% and 90%**. These constructability reviews are designed to not only focus on increasing construction efficiency and decreasing cost, but also to identify areas in which value can be added to a project. These constructability reviews and meetings are attended by both construction and design staff to encourage a free exchange of ideas and information.

Our team is specifically suited to fully integrate design and construction to maximize efficiencies. Efficiencies realized as part of this approach include simultaneous design of multiple road improvement projects, the initiation of certain construction activities such as utility relocations prior to the completion of a full set of plans and simultaneous construction of multiple road improvement projects.

### (5.c) Quality Assurance/Quality Control

**Lane** believes that quality is the cornerstone of excellence. Therefore, our commitment to producing quality work is taken very seriously on all aspects of our daily functions on a project. To achieve such excellence on this project, our quality management will be driven by the following factors:

- ▶ Using the vast experience and "lessons learned" on similar DB/PPTA projects, members of our Team will improve upon and incorporate key elements critical to success of this project into our Quality Control Plan (QCP). The QCP will address the critical aspects of Environmental, Design and Construction QC, and Design Project Management.
- ▶ Continuous coordination, communication and partnership among the Team members, **Prince William County**, and stakeholders.
- ▶ We will assemble a Quality Management Team (QMT) and personnel who are responsible for the development of an effective QC P and implementation of the program for the duration of the design and construction. QMT will be independent of design and construction functions and will have the authority to take the necessary actions to ensure work is performed in accordance with the contract requirements.
- ▶ Team members who will be committed to incorporate quality into their work and follow the QP protocols.
- ▶ Continued improvements and adjustment to our QCP.

### (5.d) Summary of Project Quality Plan

**Lane** will prepare and submit a QCP to **Prince William County** for consultation, review and approval. The QCP will be updated as necessary. Below is a brief listing of the critical processes and methods that will be used to develop, monitor and implement the QCP.

#### General

- Our designated Project Quality Manager (PQM) will report directly to our Principal in Charge (PIC). He will have no other responsibility other than overseeing, guiding, and leading the overall quality program.



The PQM will lead the development of the QCP. No construction work will start prior to the **Prince William County's** QCP approval.

- The PQM will hold scheduled meetings with **Prince William County** to review the QCP, procedures and other protocols for improvements, updates, and implementation.
- The design/construction staff will be responsible for quality of their own work, hence “do it right” the first time – they will not produce work that lacks quality and rely on QC team to catch it.
- The PIC will hold scheduled meetings with PQM to review performance and ensure that the PQM has the support and resources to plan, organize, and control the technical, administrative and other factors affecting quality of work.
- In addition to the items listed specifically for design and construction herein, the QCP will address:
  - Specific project goals and objectives as formulated by our Team in conjunction with **Prince William County**.
  - Requirements of the **Prince William County** Design & Construction Manual.
  - Requirements of the relevant Virginia Department of Transportation standards and specifications.
  - Standards and requirements of the Virginia Department of Environmental Quality.
  - Standards and requirements of the Virginia Department of Conservation & Recreation.
  - Requirements of the Manual of Uniform Traffic Control Devices, Virginia Work Area Protection Manual and applicable portions of the AASHTO Green Book.

### Design

- **Lane** will establish and maintain documented procedures to control and verify design and related documents for adequacy, accuracy, and conformance to standards, compliance to codes, cost effectiveness, overall quality, and fitness of purpose. Our Design Quality Control Manager (DQCM) will have overall responsibility for design quality control, and report directly to the PQM. He will not be involved with any design function during the life of this project.
- The DQCM will assist PQM in the development of a Design Quality Control Plan (DQCP). This will contain procedures necessary to execute and document QC activities on anticipated design products and services. The DQCM will contain roles, responsibilities, authorities and interface requirements of the Designer, Design Manager, Environmental Team Leader, DQCM, and others as appropriate. The DQCM will be responsible for training the design team (including new personnel added to the team) in implementation and compliance with the DQCP.
- The DQCP will address the following:
  - Requirements for all the design subconsultants directly involved with the design process.
  - Procedures for QC reviews of supplier and vendor generated products.
  - Procedures to implement independent design checks and resolution of results.
  - Procedures applying to documents for early release, if any.
  - No document will be released to the field at any stage of design development without appropriate QC as defined by the DQCP.
  - Procedures to address design exceptions from specified project standards.
  - Procedures for documents released for constructions that are impacted by subsequent field design changes.
  - Procedures for as-built documents.
- Internal Audits will be conducted by the PQM and DQCM to confirm ongoing compliance.
- The design staff will not have the authority to approve any deviation from contract requirements or quality plan. If discrepancy is found, it will be directed to the attention of the DQCM and coordinated through the QC Team for corrective action.



### Construction

- **Lane** will develop procedures to ensure that quality control inspection of materials and workmanship is performed and documented according to specified requirements. Our Construction Quality Control Manager (CQCM) will report directly to the Principal-in-Charge.
- The CQCM will work with our Principal in Charge (PIC) to develop a Construction Quality Control Plan (CQCP). The CQCP will outline the organization of the construction QC team, including roles, responsibilities and authorities of team members.
- The CQCP will outline processes for evaluation and selection of subcontractors, suppliers and vendors to be utilized on the project and methods of monitoring their performance.
- The CQCP will provide detailed procedures and methods for construction inspection and materials inspection, including procedures for handling of nonconforming work or materials and corrective/preventive actions to be utilized.
- The CQCP will address procedures to control all documents and data relating to project requirements, procedures for documentation of materials testing and construction inspection, and procedures for control, maintenance and calibration of testing equipment.
- The CQCP will outline anticipated staffing needs for the QC team and methods of ensuring that adequate staffing is provided at all times to adapt to the pace of construction and accommodate schedule changes.
- The CQCP will define procedures and channels of communication for the review and documentation of contract modifications.
- The PIC and the CQCM will conduct Internal Quality Audits periodically throughout the construction process to verify and document that the CQCP is effectively ensuring compliance with contract requirements.
- The CQCP will establish procedures for providing relevant and effective training for production staff whose activities affect the overall quality of construction.
- The construction inspectors will not have the authority to approve any deviation from the contract documents or quality plan. If discrepancy is found, it will be directed to the attention of the CQCM and coordinated through the QC team for corrective action.
- Work performed by construction subcontractors will be subject to the same standard of care, quality control and safety as that performed by **Lane** forces. Prior to start of any work, all subcontractors will be evaluated by PQM to ensure they have resources and capability to perform their assignments in accordance with the contract requirements and QCP.

### Project Safety

**Lane** is committed to creating an awareness of the importance of safety among employees and construction site visitors. The Site Specific Safety Program (developed upon award) objectives will include the following longstanding company principles:

- Comply with federal, state, and local requirements, governing safety, industrial hygiene, accident prevention, and loss control within the project limits.
- Require expedient actions to correct unsafe conditions of work practices, and prevent reoccurrence.





# Design-Build Conceptual PPTA Proposal

## MINNIEVILLE ROAD AND ROUTE 1 IMPROVEMENT PROJECTS



- Promote safety awareness through new hire orientation, drug testing, training, information programs, and incentives.
- Require that all foremen are first aid certified.
- Hold each employee individually accountable for his/her safety.
- Encourage employees to inform their supervisors immediately, without fear of reprisal, should they observe unsafe working conditions or practices.
- Promote the ownership of project safety with all stakeholders including the Department, subcontractors and suppliers.

Safety in the construction zone is of the utmost importance to **Lane**. Clear and comprehensive traffic control plans will be developed to maintain safety. **Lane** will implement a safety training program for every employee. Subcontractors will be safety certified prior to contract award. Safety performance will be closely monitored and any injuries will be investigated, documented, and reviewed by the Safety Manager, Doug Russell. Doug will report to the Design-Build Project Manager. The Safety Plan will be aggressively communicated to all subcontractors.

The Safety Manager and all **Lane** foremen hold American Red Cross First Aid certification and are OSHA 10-hour trained. Activity plans will be developed to determine and identify the hazards inherent to any work activity and provide information to protect the employee against these hazards. All employees participating in this activity will be oriented prior to beginning work. Orientation includes the following:

- Working in traffic (including safely installing lane closure setups)
- Working in tight spaces (including asphalt paving in close proximity to temporary concrete barrier)
- Work zone ingress and egress (for material haulers, supervisors, subcontractors, etc.)
- Work zone maintenance and protection of traffic

**Lane's** incident rates shown below are well below the published Bureau of Labor Statistics Recordable and Lost Time Rates for contractors performing similar work.

Year	Recordable Rate per 100 employees	Lost Time Rate per 100 employees	Man-Hours Worked self-performed
2011*	2.3	0.51	3,142,336
2010	3.0	0.36	6,495,160
2009	2.4	0.18	6,800,338

\*Jan-end of June 2011

**Lane's Corporate Safety Program** has been extremely successful with our current interstate experience modification at 0.66, well below the national average. This is especially significant since more than 75% of our work is self-performed.

**Lane's** corporate Safety Program is coordinated by our Director of Corporate Safety based in our home office reporting directly to the Vice President-Legal. The responsibility for safety extends from top management to trade workers including everyone in between. The Project Manager at each Lane project has overall responsibility for conducting a safe worksite. Area or Project Safety Supervisors carry out the day-to-day activities required to ensure that the workplace is in compliance with the corporate Safety Program.



**Lane** has consistently outperformed national and industry safety statistics and performance goals. We are the recipient of various awards including recognition for some projects that have achieved one million man hours worked without a lost time incident. These achievements reflect on the overall operation of Lane's plants and projects, always striving to improve our safety record.



Two recent examples of our dedication to safety include our award of the **HCCA Safe Operations in Paving Award** to VPC for its overall outstanding safety record based on OSHA recordables, EMR and its entire safety program in 2011 as well as **The Heavy Contractors Construction Association (HCCA) Safe Employee Award** (VPC-Norfolk) to Jarod Schoppaul (Pictured center in the photo to the left). 2011



## B. Team Experience

*1(b) Describe the experience of the firm or consortium of firms making the proposal, the key principals and project managers involved in the proposed project including experience with projects of comparable size and complexity, including prior experience bringing similar projects to completion on budget and in compliance with design, land use, service and other standards. Describe the length of time in business, business experience, public sector experience and other engagements of the firm or consortium of firms. Include the identity of any firms that will provide design, construction and completion guarantees and warranties and a description of such guarantees and warranties.*

**LANE** **The Lane Construction Corporation**, founded in 1890 and incorporated in 1902, has more than 121 years of transportation construction experience. Today **Lane** is one of the largest transportation contractors in the U.S. *Engineering News-Record* currently ranks **Lane** 8th among all transportation contractors. **Lane's** corporate office is in Cheshire, Connecticut, with numerous regional offices located along the eastern U.S., including a permanent location in Chantilly, Virginia. With this office, **Lane** has a strong local presence and is well positioned to deliver a quality project for Minnieville Road and Route 1 improvements to **Prince William County**. Over the last five years, **Lane** has performed in excess of \$250 million of design-build work in the Northern Virginia area. A recent **Lane** contract in the area is the Gilbert's Corner Section of the Route 50 Traffic Calming Design-Build project. In conjunction with its wholly-owned subsidiary, Virginia Paving, **Lane** has more than 600 employees located in the Northern Virginia and metropolitan Washington, DC areas. **Lane** has maintained operations in the region for 35 years, knows the issues that drive the region, and understands the transportation investment that **Prince William County** is making with these proposed roadway improvement projects. **Lane** is also familiar with the stakeholders that need to be represented and communicated with on these projects.

**Lane's** experience and ability to perform critical project elements enable control of costs and maintenance of critical work schedules. **Lane** takes pride in its quality, professionalism, budgeting, and project delivery skills. **Lane's** motto is "Commitment to Excellence" and the firm stands by this on every project.

### ► VDOT Route 234 Widening, Prince William County, VA

Lane was awarded this \$21-M contract in February 2005 to completely reconstruct Route 234 from an existing two-lane highway to four lanes within the same basic alignment. Construction improvements included maintenance of traffic, drainage, grading, stone base, signalization, waterline, and asphalt paving. Lane completed this project three months ahead of schedule and received an award for Environmental Compliance with Distinction in April 2006.

### ► Sudley Manor Drive Extension and Linton Hall Road Improvements, Manassas, VA

Lane was teamed with CH2M HILL as the primary subcontractor on these projects. Lane's work on the Sudley Manor Drive Extension project was to complete the last segment of the four-lane divided highway; the roadway was opened to traffic in December 2006. The work extended Sudley Manor Drive from Chatsworth Drive across the Norfolk Southern Railroad and Route 234 Bypass to Linton Hall Road. The Linton Hall Road project reconstructed the existing two-lane roadway to a four-lane highway with turn lanes from Route 28 to just south of Sudley Manor Drive. The work for both roadways included all facets of highway construction, including construction of two bridges and maintenance of traffic.

### ► VDOT Route 50 Design-Build Traffic Calming Project at Gilbert's Corner, Loudoun County, VA

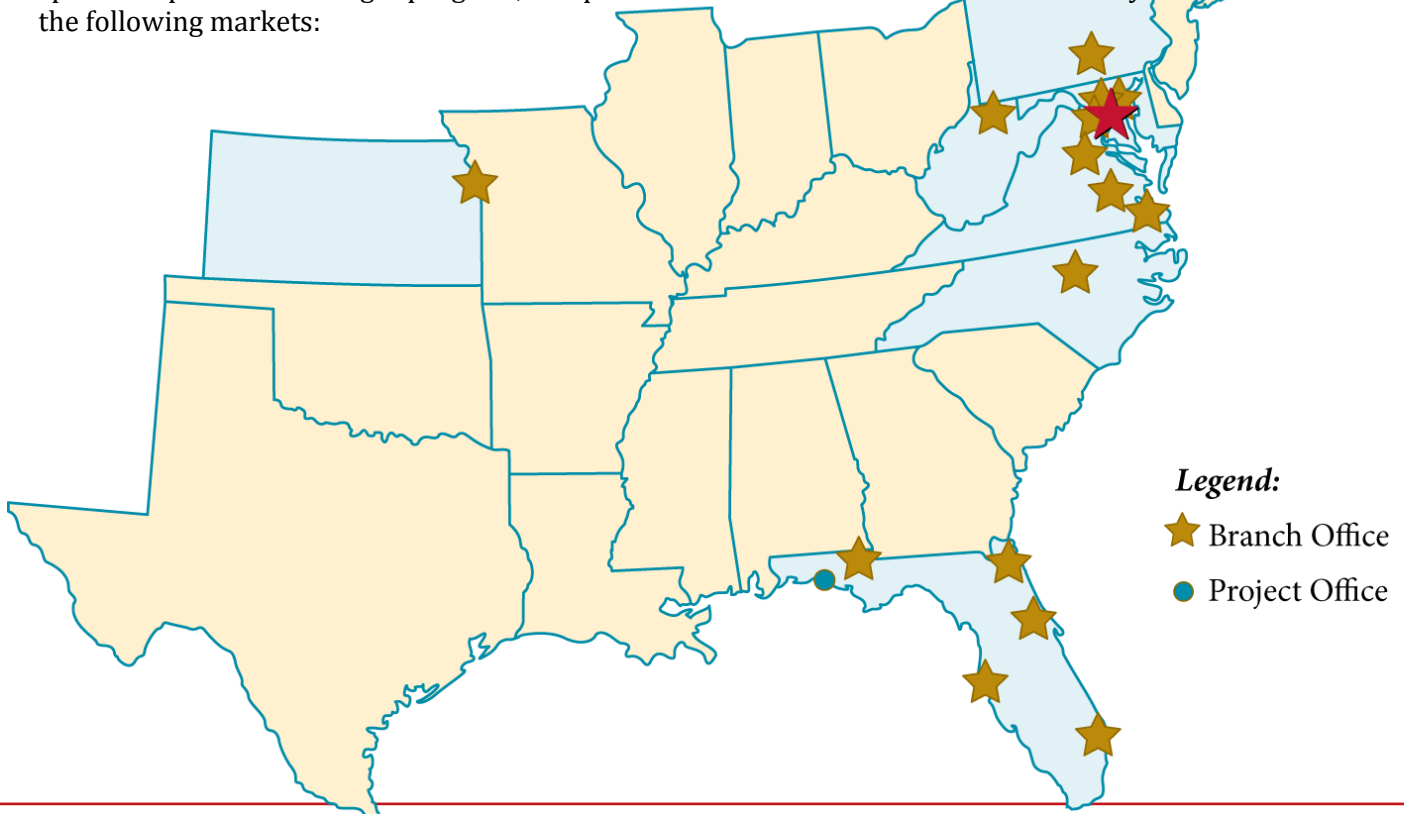
Lane was awarded this \$13-million design-build project along a 2-mile stretch of Route 50 in Loudoun County, from the intersection of Routes 15 and 50 at Gilbert's Corner east to Watson Road. VDOT's intent for the project was to calm traffic movements and preserve the existing rural and historical features of the region. Lane was responsible for the design and construction of four traffic roundabouts, a new connector road from Route 15 to Route 50, and resurfacing approximately 3 miles of existing roadway with related drainage and safety improvements.



**Greenhorne & O'Mara, Inc.** (G&O) is a national, full-service, multidisciplinary consulting engineering firm that stresses teamwork, communication, and continual quality improvement. Founded in 1950, G&O is consistently ranked in the top engineering design firms in the United States. The Washington Business Journal 2011 Book of Lists placed G&O as the 9th largest Engineering Firm (ranked by billings) and ranked 5<sup>th</sup> largest of Environmental Firms (ranked by billings) in the Washington, D.C. metropolitan area.

Our large and diversified staff of more than 500 professionals offers a broad spectrum of expertise, including civil, structural, environmental, transportation, and water resources engineering; site, facility, and military master planning; hazards mitigation; surveying and mapping; site infrastructure design, environmental services; landscape architecture; information technology, GIS; cultural resources; and other related disciplines. Of this number, 62 employees are located in our four Virginia offices in Fairfax, Fredericksburg, Chesapeake and Richmond, and 228 are in our nearby headquarters office in Laurel, Maryland. These staff resources are all centrally located and available to meet project deadlines. G&O has provided services to the Commonwealth of Virginia since the 1960's in the areas required under this contract, and maintains current registration with the state to provide engineering services. Our first office was established in Fairfax in 1977. Our close proximity will facilitate day-to-day contact with the County during the performance of this contract.

G&O began as a civil engineering, land planning, and surveying firm serving private land developers and municipal clients. As client needs evolved, G&O added transportation engineering and design, environmental, and mapping services. This mix has allowed G&O to work on many different aspects of a single project, provide specific expertise for a larger program, and position ourselves as a leader in the industry. We are best known in the following markets:





## Transportation



(G&O) core strengths in transportation services lie in highway and roadway design, bridge design and structural engineering, toll facility design, transportation planning, traffic engineering and traffic calming, construction engineering and inspection, coatings consulting, right-of-way services, utility design and coordination, and support services for transit/rail and airport facility design. We have provided these services under Design-Bid-Build, Design-Build, and Public Private Partnership (PPTA) project delivery methods to most state Departments of Transportation in the eastern U.S. Throughout our 61-year history, we have played a key role in the development and maintenance of the transportation infrastructure in the eastern United States.

## Infrastructure & Design



The core of our general civil work is helping private and public clients gain approval for their projects. Whether an office park, residential development, industrial complex, or military or institutional facility, G&O provides complete surveying, site permitting, planning, utility design, engineering, and landscape design services. Thousands of successful G&O projects dot the landscape from stadiums to golf courses and from retirement communities to industrial buildings.

## Water and Environment



G&O's diverse environmental services focus on protecting land, natural, cultural, and governmental resources. Our four key areas are environmental support services on development and transportation projects; environmental sciences and resource management as it relates to wetlands, cultural resources, and NEPA compliance; natural hazards preparedness work for federal and local agencies; facility and infrastructure assessments for public facilities, military bases, and energy companies; and engineering-related geographic information systems sciences.

## Design-Build/PPTA Transportation Facilities Design





In addition to providing conventional design services for over 60 years to various government agencies involving major highway facilities, G&O has a decade of successful experience in the design-build and PPTA methods of project delivery. G&O has served as lead designer or a major subconsultant generating revenue in excess of \$32M in design-build and PPTA projects in Virginia and other states for Federal, State and Local governments. G&O's experience in design-build projects started in 1997 on the Fed-ex field (Redskins Stadium) infrastructure improvements project. G&O's philosophy is work collaboratively with the design-build and PPTA teams to create value for the owner through technical expertise and a culture of innovation and teamwork. G&O's commitment is to provide our partners with inspired solutions for improving lives through better communities, a healthier environment, and a safer world.

Table 1-1 lists Lane's recent relevant experience with design-build/PPTA/Prince William County projects.

Table 1-2 lists G&O's recent relevant experience with design-build/PPTA/Prince William County projects.



**Table 1-1 – Lane Design-Build and PPTA Project Experience**

Project Name, Location & Description	Client (Project Type)	Contactor / Developer	Construction Cost Completion
	<p><b>Gilbert's Corner Route 50 Traffic Calming, Loudoun County, VA</b> - As the prime contractor on this Design-Build traffic calming project, The Lane Construction Corporation self performed all construction aspects of the project which included roadway widening, construction of a new connector road, construction of four roundabouts, drainage, maintenance of traffic, permitting, QA/QC, and coordination of utility relocation</p>	<p>Virginia Department of Transportation (D/B)</p>	<p>Lane Construction Corporation \$13M ----- 2010</p>
	<p><b>I-495 Capital Beltway HOT/HOV Lanes; Fairfax County, VA</b> — 12 miles of widening and reconstruction with four HOT/HOV lanes in each direction. Lane is a 35% Joint Venture partner with Fluor on this high profile project.</p>	<p>Virginia Department of Transportation (PPP)</p>	<p>Fluor-Lane, LLC \$1.4B ----- 2012</p>
	<p><b>Route 234 Widening, Prince William County, VA</b> - Project involved widening the roadway from two lanes to a four lane divided highway with associated turning lanes and signalization.. Work scope included on this project were contract management, roadway work, MOT, permitting, drainage, paving, and QA/QC</p>	<p>Virginia Department of Transportation (PPP)</p>	<p>Lane Construction Corporation. \$20.7M ----- 2007</p>
	<p><b>I-395/495 Springfield Interchange Improvements, Phase V</b> — Lane constructed this high profile project within the complex interchange convergence of I-95, I-495 and I-395 South of Washington, DC, under some of the heaviest traffic conditions in the country. Performing all of the structure, excavation and paving work itself, the project took extraordinary efforts to coordinate with other contractors and the Client. Work included the widening of ramps and reconstruction of the existing interstate with additional median lanes.</p>	<p>Virginia Department of Transportation (PPP)</p>	<p>Lane Construction Corporation \$74.3 ----- 2004</p>
	<p><b>Sudley Manor Drive Extension and Linton Hall Road Relocation, Prince William County, VA</b> – The Sudley Manor Drive portion of the work consisted of two miles of new road construction tying two separate pieces of Sudley Manor Drive together to complete the cross county parkway. The Linton Hall Road portion of the work consisted of 4,000 feet of new road construction that relocated the existing Linton Hall Road and provided a wider road.</p>	<p>Prince William County Department of Transportation (PPP)</p>	<p>CH2M Hill, Inc.- \$25.4M ----- 2009</p>



**Table 1-2 - G&O Design-Build and PPTA Project Experience**

	Project Name & Location — Description	Client (Project Type)	Contactor/ Developer	Construction Cost Completion
	<p><b>I-495 Capital Beltway HOT/HOV Lanes; Fairfax County, VA</b> — 12 miles of widening and reconstruction with four HOT/HOV lanes in each direction. <b>Subconsultant to Flour-Lane</b> for utility design and coordination, ROW acquisition, survey and miscellaneous design work.</p>	<p>Virginia Department of Transportation (PPP)</p>	<p>Flour-Lane, LLC</p>	<p>\$900M ----- 2012</p>
	<p><b>Treyburn Drive, Williamsburg, VA</b> — Utility relocation and design, ROW acquisition, and lighting design for 0.75-mile urban street on new alignment connecting Monticello Avenue to Ironbound road. <b>Subconsultant to Jack Massie Construction</b></p>	<p>City of Williamsburg, VA (PPP)</p>	<p>Jack Massie Construction</p>	<p>\$7M ----- 2006</p>
	<p><b>“Award Winning” MD 32/Airfield Road Interchange; Ft. Meade, MD</b> — Design and construction of a new interchange and a gatehouse in front of Ft. Meade including four ramps, two roundabouts, elimination of at-grade intersection at MD 198 and Mapes Road and a major culvert structure. <b>Lead Designer</b>   <i>MD State Highway Administration’s 2004 MD Quality Initiative Award of Excellence (Consultant Highway Design — Large Project), DBIA’s 2004 award (Civil Engineering)</i></p>	<p>Maryland State Highway Administration (DB)</p>	<p>Cherry Hill Construction, Inc.</p>	<p>\$10M ----- 2003</p>
	<p><b>Britton Road, Henrico, VA</b> - Engineering services in connection with the design of the grade separation structure of Britton Road over Route I-895 as well as the design of the relocated Britton Road. The construction of Route I-895 had severed the existing two-lane, 18-foot-wide Britton Road located in a 50-foot right-of-way. In order to maintain a through road at this location between Charles City Road and Darbytown Road, Britton Road needed to pass over Route I-895.</p>	<p>Virginia Department of Transportation</p>	<p>Flour Contracting</p>	<p>\$18M ----- 2003</p>
	<p><b>Garrisonville Road, Stafford County, VA</b> - Provision of complete design contract plans for this 0.75 mile stretch of Garrisonville Road between Mine Road and Onville Road. As part of the complete design of the roadway widening from four lanes to six, G&amp;O’s responsibilities included environmental compliance, utility relocation and right-of-way acquisition.</p>	<p>Stafford County Department of Transportation</p>		<p>\$9.5M ----- 2007</p>



### C. Key Personnel

1(c) Provide the names, prior experience, addresses, telephone numbers and e-mail addresses of persons within the firm or consortium of firms who will be directly involved in the project or who may be contacted for further information.

Below is a listing of the key staff with the required information. A complete resumes detailing their specific project experience are included in Section I, Appendix 1.

#### Construction Key Staff

<i>Project Assignment:</i>	
<b>Rich McDonough</b>	<b>Principal-in-Charge</b>
Firm: <b>LANE</b> Experience: <b>With firm 5 Total 32</b> Education: BS/1979/Civil Engineering <hr/> <b>Contact Information:</b> 14500 Avion Parkway, Suite 200 Chantilly, VA 20151 (p)703.222.5670	Rich is a 1979 graduate of the Virginia Military Institute with a B.S. in Civil Engineering. He began his career with Moore Brothers Company, Inc. a Virginia based highway and bridge contractor, as an Engineer in May 1979. Following seventeen years of various levels of project management, Rich was promoted to Vice President of Operations, a post he held for over ten years. Rich joined The Lane Construction Corporation as a Project Manager through the Moore Brothers acquisition in October 2006. He was promoted to Assistant District Manager in December 2007 and District Manager in 2009. Rich was a member of the Board of the Virginia Transportation Construction Alliance from 1998 through 2009; served as President 2007 – 2008. He continues to serve on the VTCA/VDOT Design-Build Committee and has been since 2007.
<i>Project Assignment:</i>	
<b>Jerry Brown</b>	<b>Project Manager</b>
Firm: <b>LANE</b> Experience: <b>With firm 37 Total 37</b> Education: BS/1974/Civil Engineering <hr/> <b>Contact Information:</b> 14500 Avion Parkway, Suite 200 Chantilly, VA 20151 (p)703.222.5670	Jerry is a seasoned construction veteran with over 30 years of experience. During his service with Lane, Jerry has worked his way from a Project Engineer to his present position of a Sr. Project Manager. As a Senior Project Manager, Jerry is in charge of the general day-to-day activities of the project. His duties include working with the owner, senior management, and subcontractors. He is responsible for implementing and adhering to all safety and quality measures as well as maintaining schedule milestones, organizing manpower, managing the project budget and delivering the project on time or ahead of schedule.
<i>Project Assignment:</i>	
<b>Doug Russell</b>	<b>Safety Manager</b>
Firm: <b>LANE</b> Experience: <b>With firm 38 Total 39</b> Education: BS/1973/Civil Engineering <hr/> <b>Contact Information:</b> 14500 Avion Parkway, Suite 200 Chantilly, VA 20151 (p)703.222.5670	Mr. Russell joined Lane in 1974 as a Surveyor/Carpenter Apprentice on Lane’s I-95 project in Crum Lynne/Chester, PA During his early career with Lane, Doug’s construction experience was concentrated in carpentry and welding. In 1990 he was assigned Lane’s College Park project as Sr. Foreman and Assistant Safety Superintendent. Since that time, Doug has continued to concentrate his experience in construction safety. He is a board certified safety manager, and has completed training in OSHA 500 and OSHA 510 courses. Doug is also one of Lane’s six certified Lane Safety Trainers having completed an intensive three-day training course that covered Confined Spaces, Electrical Safety, Excavations, Handling Spills, Lockouts, Hazard Communication and Respirators. Doug’s experience and training provide the project sites he is assigned to with a competent safety officer who can be relied upon to ensure all safety regulations are being complied with.





# Design-Build Conceptual PPTA Proposal

## MINNIEVILLE ROAD AND ROUTE 1 IMPROVEMENT PROJECTS



*Project Assignment:*

### Project Quality Manager

#### Russell Lauer

Firm: **LANE**

Experience: *With firm* 9 *Total* 16

Education: MS/2002/Building Management Construction

**Contact Information:**  
 14500 Avion Parkway, Suite 200  
 Chantilly, VA 20151  
 (p)703.222.5670

Mr. Lauer began his career with Lane upon his graduation from Purdue University in 2002 as a Job Engineer on Lane's \$220M Joint Venture, Blue Line Extension to Largo Addison Route, Section G4b, MD. In 2007 he assumed the duties of Quality Control Manager and Job Engineer and in 2009 was promoted to Sr. Job Engineer in conjunction with his role as Quality Control Manager. In 2011 Russell was promoted to Assistant Project manager/Quality control Manager while working at the US Capitol on the R tunnel Improvement project. Russell is certified in Erosion and Sediment Control in both Virginia and North Carolina; North Carolina Portland Cement Concrete Pavement/Batch Plant certified and has received training from the U.S. Army Corps of Engineers in Construction Management.

*Project Assignment:*

### Construction Manager

#### Dennis Rodkey

Firm: **LANE**

Experience: *With firm* 30 *Total* 37

Education: BS/1975/Construction Management

**Contact Information:**  
 14500 Avion Parkway, Suite 200  
 Chantilly, VA 20151  
 (p)703.222.5670

Dennis joined Lane in 1981 with seven years of construction experience. During the past 30 years that Dennis has been with Lane he has brought a strong management value to each project he has been assigned to. He is currently assigned to Lane's Mid-Atlantic region for over ten years and has served on numerous projects at the Washington Dulles International Airport. In addition to his airport experience, Dennis has served on a number of Virginia Department of Transportation projects and is well versed in the operations of a VDOT roadway project. Dennis received certification as an HCCA Competent Person in Underground Construction, Soils Testing, Shoring, Trucking, Hazard Awareness and OSHA Regulations.

*Project Assignment:*

### Project Controls Manager

#### Jesse Edwards

Firm: **LANE**

Experience: *With firm* 5 *Total* 40

Education: Diploma/1970

**Contact Information:**  
 14500 Avion Parkway, Suite 200  
 Chantilly, VA 20151  
 (p)703.222.5670

Mr. Edwards has 40 years of experience, in highway construction and site development. While with the Virginia Department of Transportation (VDOT), he held positions such as Inspector, Project Engineer and Assistant Resident Engineer. Before joining Lane, he served as a Contractor Scheduling Engineer/Manager on various Interstate Highway construction projects in Northern Virginia. Jesse has been responsible for preparing project schedules on Lane projects for five years and understands the importance of updating CPM schedules in order to improve production/progress and support change orders and/or time extensions.

Jesse's scheduling experience includes preparation and analysis of contractor CPM schedules. He is responsible for reviewing the plans and scheduling specifications, as well as inserting the necessary logic into Primavera (i.e. activity relationships, durations, resources, costs, resource leveling, project and activity codes, work breakdown structure, constraints, calendars, special layouts, filters, scheduling reports, etc.)



### Design Key Staff

*Project Assignment:*

**Design Manager**

#### Maurice DeBeary, PE

**Firm:** GREENHORNE & O'MARA  
CONSULTING ENGINEERS

**Experience:** With firm 5 Total 27

**Education:** BS/1983/Civil Engineering

**Registration:** Professional Engineer:  
VA/#033790

**Contact Information:**  
4460 Brookfield Corporate Drive  
Suite G, Chantilly, VA 20151  
(p) 703.263.1220

Mr. DeBeary is a **Virginia Registered Professional Engineer** with 27 years of experience specializing in the design management as well as hands-on design of transportation facilities. His broad experience encompasses the design and management of transportation projects involving design-build and PPTA methods of project delivery. In recent years he has served in such roles for major highway and bridge projects for Virginia DOT, District DOT, Maryland SHA, Maryland Transportation Authority, and other Metro-Washington governmental jurisdictions. He is thoroughly familiar with VDOT, AASHTO and FHWA design and construction policies, procedures and guidelines.

*Project Assignment:*

**Lead H/H Engineer**

#### Kevin Haung, PE

**Firm:** Endesco, Inc.

**Experience:** With firm 3.5 Total 18

**Education:** MS/1995/Civil Engineering

**Registration:** Professional Engineer:  
VA/#7388

**Contact Information:**  
438 N. Frederick Avenue, Suite 455  
Gaithersburg, MD 20877  
(p) 301.987.8776

Mr. Huang is currently the President of Endesco. Kevin has more than 18 years of experience in water resources and transportation projects with expertise in hydrology /hydraulics. His responsibilities included stormwater management design, erosion and sediment control design, closed storm drain and ditch design, and culvert analysis in highway design and land development projects. He is proficient in TR-20, TR-55, HEC-RAS, HY-8, flowmaster, HEC-18, bridge scour studies, and MicroStation.

Mr. Huang has extensive experience with MDE (non-tidal wetlands, waterways, water quality certifications, erosion & sediment control, and stormwater permits as well as FEMA floodplain revisions, and Clean Water Act Section 401 and 404 permitting and design requirements.

*Project Assignment:*

**Lead Roadway Engineer**

#### Cody Smith, PE, LEED

**Firm:** GREENHORNE & O'MARA  
CONSULTING ENGINEERS

**Experience:** With firm 4 Total 12

**Education:** MS/1999/Civil Engineering

**Registration:** Professional Engineer:  
VA/#10691

**Contact Information:**  
4460 Brookfield Corporate Drive  
Suite G, Chantilly, VA 20151  
(p) 703.263.1220

Mr. Smith is **Virginia Registered Professional Engineer** with 16 years experience in project management, civil engineering and construction management. He has experience in both the public and private sectors and has a well-rounded knowledge of development projects though his role as both an owner's representative and consultant. He has directed and prepared feasibility studies, master plans, and construction drawings for a wide variety of projects, including major transportation infrastructure, wetland creation, new communities, marinas, parks, urban high-rise development, military infrastructure, airport infrastructure, resorts, electric infrastructure, reservoirs, pump stations, bridges, regional parks, pools and recreation buildings. Mr. Smith's expertise also includes presentations to planning boards and City/County commissioners, and coordination with Federal, State, and local agencies regarding project reviews and approvals.



Project Assignment:

### Bimal Patel, PE

### Lead Structures Engineer

**Firm:** GREENHORNE & O'MARA  
CONSULTING ENGINEERS

**Experience:** With firm 8 Total 27

**Education:** BS/1982/Civil Engineering

**Registration:** Professional Engineer:  
VA/#22041

**Contact Information:**  
6110 Frost Place, Laurel, MD 20707  
(p) 301.982.2800

Mr. Patel is a **Virginia Registered Professional Engineer** with 27 years of experience in transportation related structures design projects. His experience includes serving as lead structural engineer on design-bid-build as well as design-build projects. He has served in this role for projects in Virginia, Maryland, District of Columbia and other states. He is thoroughly familiar with VDOT, AASHTO and FHWA specifications, standards, and guidelines for structures design. He has managed and has performed hands-on design from conceptual study to final design and preparation of plans for rehabilitation, replacement and new bridges for highway structures over land, waterway and railroads.

Project Assignment:

### John Christman, PE

### Traffic Engineer

**Firm:** GREENHORNE & O'MARA  
CONSULTING ENGINEERS

**Experience:** With firm 13 Total 40

**Education:** BS/1970/Civil Engineering

**Registration:** Professional Engineer:  
VA/#23087

**Contact Information:**  
6110 Frost Place, Laurel, MD 20707  
(p) 301.982.2800

Mr. Christman is a **Virginia Registered Professional Engineer** with more than 40 years experience in performing and managing transportation engineering projects. Specializing in highway and traffic engineering, John has served as lead traffic engineer on multitude of highway and traffic projects involving design-bid-build and design-build methods of project delivery in the Washington Metropolitan area. He has directed and prepared designs and construction documents for a variety of roadway and bridge projects, including, maintenance of traffic plans, signal design, pavement marking, and signing and lighting plans all in accordance with VDOT, MDSHA, DDOT, AASHTO, FHWA (including MUTCD) guidelines, policies and procedures.

Project Assignment:

### Evelyn Jones, PE

### Right-of-Way Specialist

**Firm:** GREENHORNE & O'MARA  
CONSULTING ENGINEERS

**Experience:** With firm 12 Total 30

**Education:** Diploma/1976

**Registration:**  
Certified General Appraiser: VA  
Licensed Real Estate Agent: VA

**Contact Information:**  
4460 Brookfield Corporate Drive,  
Suite G, Chantilly, VA 20151  
(p) 703.263.1220

Mrs. Jones has extensive experience in all disciplines of the right-of-way process for transportation projects as a result of her 30 years with the Virginia Department of Transportation (VDOT). She was responsible for the relocation, negotiation, appraisal, legal and property management functions on multiple projects during that time. Other responsibilities include 15 years in the negotiation of acquisitions and legal research and closings and five years in performing property management functions on properties acquired prior to the proposed construction.

Mrs. Jones is currently the Regional Manager of Right-of-Way Services for Greenhorne & O'Mara, Inc. (G&O) where she has responsibilities for overseeing and managing all aspects of the right-of-way contracts being performed for VDOT and other clients to include: appraisals, appraisal reviews, negotiations, relocations, eminent domain, titles, and closings.



*Project Assignment:*

### David Malinoski, Jr, PE

### Utility Design Coordinator

**Firm:** GREENHORNE & O'MARA  
CONSULTING ENGINEERS

**Experience:** With firm 12 Total 22

**Education:** BS/1978/Civil Engineering

**Registration:** Professional Engineer/  
VA/#23087

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**Contact Information:**  
4460 Brookfield Corporate Drive,  
Suite G, Chantilly, VA 20151  
(p) 703.263.1220

Mr. Malinoski is a **Virginia Registered Professional Engineer** with over 33 years of experience in the management, design and coordination of transportation, site improvement and utility projects. His expertise is in relocation design and coordination of utility relocations, particularly in Virginia. Over the past 12 years, he has been involved in many major design-build and PPTA projects in Virginia providing utility relocation coordination and design services. He is intimately familiar with all utility companies and VDOT procedures having provided the utility coordination and design services on such projects. In addition, he has personally completed and has been responsible for the supervision of survey and design engineers in the preparation of boundary, topographic and planimetric surveys; traffic studies; road geometry and highway plan preparation, all in accordance with VDOT, AASHTO and FHWA specifications, standards, guidelines and procedures. He is proficient in the application of various civil engineering computer software on infrastructure projects including MicroStation, AutoCAD, Microsoft Project and Primavera Project Planner.

*Project Assignment:*

### Edward Drahos, PE

### Lead Geotechnical Engineer

**Firm:** Schnabel  
ENGINEERING

**Experience:** With firm 28 Total 34

**Education:**  
MS/1977/Geotechnical Engineering  
BS/1975/ Civil Engineering  
BS/1972/ Mathematics

**Registration:**  
Professional Engineer/ VA/#23087

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**Contact Information:**  
One Cary Street, Richmond, VA 23220  
(p) 804.649.8245

Mr. Drahos' is a **Virginia Registered Professional Engineer** with expertise in geotechnical engineering for transportation facilities including airport, bridge, highway, and rail projects; low and high-rise commercial buildings; hospitals; university buildings; correctional facilities; industrial plants; water and wastewater treatment plants and water storage tanks; power plants; communication towers; military facilities; drainage structures; retaining walls; waterfront structures; dewatering; underpinning; and excavation sheeting and shoring. He has served as lead geotechnical engineer on many transportation improvement projects in Virginia including projects in Prince William County. He is familiar with the area, VDOT, AASHTO and FHWA specifications, guidelines and procedures.



## **D. Financial Information**

*1(d) Provide a current or most recently audited financial statement of the firm or firms and each partner with an equity interest of twenty percent or greater.*

Lane continues its more than 100 year old tradition as a strong construction company. A copy of our most recently audited financial statement is included in the Section 3.

## **E. Conflict of Interest**

*1(e) Identify any persons known to the proposer who would be obligated to disqualify themselves from participation in any transaction arising from or in connection to the project pursuant to The Virginia State and Local Government Conflict of Interest Act, Chapter 31 (§ 2.2-3100 et seq.) of Title 2.2.*

There are no known persons who would be obligated to disqualify themselves from participation in any transaction arising from or in connection to the project pursuant to The Virginia State and Local Government Conflict of Interest Act, Chapter 31 (§ 2.2-3100 et seq.) of Title 2.2.

## **I. QUALIFICATIONS & EXPERIENCE**

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# **Appendix 1**

Personnel Resumes



## Richard McDonough

District Manager

### Project Assignment Principal-In-Charge

#### Firm



#### Experience

With firm 6 Total 27

#### Education

MS/1979/Civil Engineering; Virginia Military Institute

#### Registration

N/A

#### Training/Certificates

N/A

#### Affiliations

- Serves on the Virginia Transportation Construction Alliance (VTCA) Board (1999–Present)
- Served as VTCA President (2007–2008)
- Serves on the VTCA/VDOT Design-Build Task Force (2007–Present)

### PROFESSIONAL PROFILE

Rich is a 1979 graduate of the Virginia Military Institute with a B.S. in Civil Engineering. He began his career with Moore Brothers Company, Inc. a Virginia based highway and bridge contractor, as an Engineer in May 1979. Following seventeen years of various levels of project management, Rich was promoted to Vice President of Operations, a post he held for over ten years. Rich joined The Lane Construction Corporation as a Project Manager through the Moore Brothers acquisition in October 2006. He was promoted to Assistant District Manager in December 2007. Rich has been a member of the Board of the Virginia Transportation Construction Alliance since 1998 and has served on the VTCA/VDOT Design-Build Task Force since 2007. Rich's recent roles in which he has served include:

**District Manager. (2010-Present)** Responsible to the Mid-Atlantic Regional Vice President for construction operations in Virginia and West Virginia. Responsible for the operations of Virginia Sign and Lighting (Division of Lane). Participate in development of new projects for construction, negotiations of new contracts and work orders. Responsible for the overall administration of project in Virginia/West Virginia region.

**Assistant District Manager/Project Manager.** Assisted with Lane Mid-Atlantic operations and Virginia Sign and Lighting Company (division of Lane). Design-Build Project Manager for Linton Hall Road (Prince William County, VA) and Gilberts Corner Traffic Calming (Loudoun County, VA) projects. Participated in the development of new projects for construction, negotiations with Owners and plan development. Responsible for overall administration of projects, addressed project issues and took corrective action as necessary, communicated design progress to owners, adhered to project schedules. Interacted with the Construction Manager, the Owner and all other involved stakeholders regarding the progress of construction, schedule, budget, quality control and safety.

#### Project Experience

**I-66 HOV Project, Prince William County, VA, VDOT** - Executive Sponsor and On-Site Construction Manager for \$35 million dollar interstate reconstruction project. The scope for this project was to reconstruct four miles of four lane interstate and four new lanes. **Responsibilities included:** Oversight of all facets of field management. Facilitated, supported and participated in the formal Partnering process of the project to improve project communications, relations and problem solving on the project. Led the effort for several construction Value Engineering Proposals, which resulted in financial savings and schedule improvements. Supervised senior project staff, negotiations with the Owner, estimating, budget, and input for means and methods of construction. Direct supervision of superintendents and subcontractors for all structure construction to include bridges, retaining walls and shoring for support of excavation.



**Linton Hall Road, PPTA, Manassas, VA - Project Manager.** The scope for this \$15 million project was to replace a two-lane roadway with four lanes with turn lanes, working under traffic. Worked with the project sponsor's designers providing input to the design for constructability, maintenance of traffic, value engineering concepts and cost. **Responsibilities included:** Overall administration for construction of the project. Accountable for addressing all project construction issues and taking proactive measures to ensure issues do not impede the progress of the project schedule. Interacted with the Construction Manager, the Owner, and all other involved stakeholders regarding the progress of construction, schedule, budget, quality control, and safety.

**Gilberts Corner Traffic Calming, Loudoun County, VA - Design-Build Project Manager.** Gilberts Corner was an innovative \$13 million dollar design-build traffic-calming project for VDOT. The scope for this project was to add four roundabouts within the existing roadway, under traffic, to calm and make safe travel through this heavily congested commuter corridor. **Responsibilities included:** Overall administration of project, which included Design, Public Relations and Quality Management. Was also responsible for chairing weekly coordination meetings between our Team and VDOT to maintain a homogeneous work effort for design, construction, schedule and permitting. Accountable for addressing all project issues and taking proactive measures to ensure unforeseen conflicts and problems do not impede the progress of the project schedule. Interacted with the Construction Manager, the Owner, and all other involved stakeholders regarding the progress of construction, schedule, budget, quality control, and safety.

**Dulles Airport Taxiway W-2, Dulles, VA - Project Manager.** A \$30 million contract to construct one mile of a new airport taxiway with related connection. The project involved earthmoving, cement treated stone, 18-inch thick slip form concrete paving, lighting, asphalt and finishes. **Responsibilities included:** Directly responsible for supervision of superintendents, schedule and negotiations with the owner.

**Interstate 95 Widening Upgrades and Improvements, Stafford and Spotsylvania Counties, VA - Bridge Superintendent.** Bridge Superintendent on four consecutive projects on I-95 to rebuild and widen the interstate from four to six lanes. **Responsibilities included:** Supervise all foremen and their crews on 18 separate bridges from start to finish. This contract was valued at \$60 million.

**Project Development, Chantilly, VA.** Participated in the development of new projects to construct; involved with negotiation with Owners, plan development and design input estimating.

**Moore Brothers Company, Inc. (1996-2006) - Vice President-Operations.** Responsible for field operations: safety, project staffing, means and methods of construction, direct oversight of all bridge construction operations, estimating for bids and change order, budget review and project development.

**Moore Brothers Company, Inc. (1993-1996) - Contract Manager.** Contract Manager for construction of the Dulles Greenway Private Toll Road, Section CS&A—13 bridges and five miles of roadway and ramps. Supervised project superintendents and foremen, schedule and negotiations with the Owner.





**Angel Lebron Roberts, PE**  
Project Engineer

**Project Assignment**  
**Project Controls Manager**

**Firm**

**Experience**

With firm **14** Total **10**

**Education**

BS in Civil Engineering/1997; **University of Puerto Rico**

**Bridge Design/1997**; Presenting bridges designs using precast beams.

**Plan Scheduling Construction Project/1997**; Presenting management procedures focused on the *Critical Path Method* (CPM).

**Registration**

Professional Engineer: Puerto Rico, #17232

**Training/Certificates**

- C.I.A.P.R.
- VDOT / VTCA Erosion & Sediment Control Contractor Certification Program/#2732
- Adult CPR & AED, Heartsaver AED
- OSHA 10 Hour
- Virginia Land Disturber/Cert #24984

**Responsibilities**

- Implement & Manage Quality Control Plans
- Submittal Reviews
- SPPP Inspections
- Subcontractor Coordination
- Schedule Maintenance
- Invoice Preparation
- Client Liaison

### PROFESSIONAL PROFILE

Upon graduating from the University of Puerto Rico, Mayagüez Campus in 1997, Angel went to work for Precon, Co. as a Quality Control Supervisor overseeing the activities at a casting yard. He spent several more years working in Puerto Rico and obtained his Professional Engineer designation. In 2001 Angel joined Lane as Job Engineer and was assigned to the \$75 million I-395/495 Springfield Interchange Improvements, Phase V, project in Springfield, VA. Since joining Lane, Angel has been assigned to a variety of projects that includes highways, airports and federal projects. He is bilingual in Spanish and English, is CPR, AED and Heartsaver AED certified, and holds a VDOT/VTCA Erosion & Sediment Control Contractor Certification and a Virginia Land Disturber Certification.

**Project Experience**

**Early Transitions to Existing Pavements Package, Dulles International Airport - Job Engineer.** Quality Control Manager for construction of new Taxiways, preparatory work for future reconstruction of Runway 1C-19C. Contract for \$6 million includes excavation, electric, drainage, soil stabilization, cement treated base, concrete pavement, asphalt pavement and other misc. **Responsibilities included:** implement and manage the Contractors Quality Control Plan.

**4<sup>th</sup> Runway and Associated Taxiways Paving and NAVAIDS Package Washington Dulles International Airport-Dulles, VA - Job Engineer.** Combined contract for \$190 million to build the new 4<sup>th</sup> Runway at Dulles. Work included clearing & grubbing, grading, drainage, electrical, asphalt paving, concrete paving, NAVAIDS and BTU construction. **Responsibilities included:** Alternate QC manager, review and assist coordinating the phase controls. Coordinate subcontractors, purchase materials, update cost system, SPPP inspections, Wetland monitoring reports and prepare other documentation such letters, RFI's and pay applications.

**Arlington National Cemetery, Land Development 90, Arlington, VA- Job Engineer.** This \$6.7 million project included clearing and grooving, water line, storm drain, excavation and embankment, roads, seeding and landscaping. **Responsibilities included:** update schedule, coordinate subcontractors, keep track of quantities, update cost, order materials, review submittals, prepare invoices, survey.

**Reconstruction of Pennsylvania Avenue, Washington DC - Job Engineer.** This fast track \$2.3 million reconstruction project of Pennsylvania Avenue included both security and aesthetic elements. The project consisted of the removal and reconstruction of roadways and sidewalks to create a pedestrian plaza and the construction of four security booths. **Responsibilities included:** Preparing daily reports,



# Design-Build Conceptual PPTA Proposal

## MINNIEVILLE ROAD AND ROUTE 1 IMPROVEMENT PROJECTS



ordering materials, coordinating subcontractors, preparing as-builts plans & assisting to supervise the reconstruction works. Also, kept track of quantities and invoices.

**I-395/495 Springfield Interchange Improvements, Phase V, Springfield, VA – Job Engineer.** Lead contractor for Phase V of the Springfield "Mixing Bowl" Interchange, a \$75 million major highway and bridge contract for the Virginia Department of Transportation (VDOT). This complex interchange involved the construction of 5 new multi-span bridges and reconstruction and widening of two existing bridges with four cast-in-place retaining walls totaling 14,591 cubic meters of structural concrete. **Responsibilities included:** assisting the Bridge Engineer and the Project Engineer; placing materials orders, transmitting paperwork to VDOT (Virginia Department of Transportation), reviewing and submitting shop drawings to VDOT, coding invoices & timecards. Also took care of preparing cost proposals forms, helping to supervise special activities like lane shifts and deck pours and preparing portions of "the cost" and "weekly progress reports".

**Nevarés & Villavicencio Construction S.E.** Guaynabo, Puerto Rico - **Projects Take Off; Project Engineer, Owner Representative** at Alto Parque Housing Corp. Supervising AT&T New Toll Building at its first phase. In charge of construction projects such as housing, private, and pharmaceutical industries. Working with D.A.C.O. cases.

**Precon, Co.,** Trujillo Alto, Puerto Rico, - **Quality Control Supervisor** - Supervising duties at casting yard.

**Integrated Civil Engineering Project, University of Puerto Rico, Mayagüez Campus, Prof. Walter Ruiz, Ph.D., PE** - Performing a design of the health facilities such as sewage and fire protection systems for Las Cucharas Correctional Complex.



**Jerry Brown**  
 Sr. Project Manager

**Project Assignment**  
**Project Manager**

**Firm**



**Experience**

With firm **37** Total **37**

**Education**

BS/1974/Civil Engineering; Clarkson College

**Registration**

N/A

**Training/Certificates**

N/A

**Affiliations**

- Virginia Transportation Construction Alliance

**Responsibilities**

- Monitor industry trends and understand the competition
- Understand public and private market areas
- Plan effective use of resources (people, equipment, materials)
- Assist with strategic planning
- Develop business growth plan for area
- Establish and communicate objectives/goals
- Communicate district and corporate information to the project team
- Communicate procedures for document control
- Monitor cost reports/analysis
- Maintain budgets
- Maximize profit
- Ensure project has the supervisory resources available to perform work
- Monitor and enforce adherence to EEO polices and Affirmative Action plans

**PROFESSIONAL PROFILE**

Jerry is a seasoned construction veteran with over 30 years of experience. During his service with Lane, Jerry has worked his way from an Assistant Superintendent to his present position of a Sr. Project Manager. As a Senior Project Manager, Jerry is in charge of the general day-to-day activities of the project. His duties include working with the owner, senior management, and subcontractors. He is responsible for implementing and adhering to all safety and quality measures as well as maintaining schedules, organizing manpower, managing the project budget and delivery of projects.

**Project Experience**

**I-495 Capital Beltway (HOT Lanes). Fairfax, VA, Sr. Project Manager -** Lane is a 35% Joint Venture Partner with Fluor on this high profile, \$1.5 billion design-build project for VDOT. Construction on the HOT Lanes project consists of four new general purpose traffic lanes (two in each direction) on the outside of the existing lanes of the Capitol Beltway, the reconstruction of ramps, interchanges, frontage roads, over passes and underpasses, bridges, and other necessary crossings. In addition, the project includes the installation of the electronic toll and traffic management facilities and systems necessary and appropriate for the operation of the HOT Lanes (including an Open Road Tolling System and Advanced Transportation Management System (ATMS)) and all other facilities and improvements required for the opening and operation of the HOT Lanes. **Responsibilities Included** monitoring cost reports, maintaining project budget and resource planning.

**Dulles Airport 4<sup>th</sup> Runway Grading & Paving Contracts, Dulles, VA-** **Sr. Project Manager -** Lane was the prime contractor for the construction of a new runway, taxiways, and deicing pad at Dulles International Airport. The project was broken into two contracts, an earthwork package (\$43M) and a paving package (\$148M). The earthwork package included 2,300,000 cubic yards of unclassified excavation, which was placed as embankment. The grading of the runway, taxiways, de-ice pad, and perimeter roads required more than 675 acres of clearing and grubbing, 525,000 cubic yards of topsoil stripping, 15,300 linear feet of reinforced concrete pipe, thirteen box culverts of various sizes totaling 4,700 linear feet, and 22,000 linear feet of fencing. The paving package included the placement of 610,000 SY of 17-inch PCC Pavement, 60,000 SY of Asphalt Concrete shoulder and access roads, 883,700 SY of 6-inch Cement Treated Base Course, NAVAIDS, and lighting. **Responsibilities Included** monitoring cost reports, maintaining project budget and resource planning.

**Washington Dulles International Airport Runway 12-30, Dulles, VA.** **Sr. Project Manager -** The Metropolitan Washington Airports Authority contracted with Lane to completely reconstruct this east/west, 10,000-foot runway at Dulles International Airport. The reconstruction included





pavement demolition, Portland Cement Concrete (PCC) paving, isolated slab repairs, pavement grooving, shoulder work to allow the pavement construction and grade transitions, pavement marking, under-drains and the placement of runway centerline, edge and touchdown lighting. *The entire project was completed in 5 months earning the company an early completion bonus as well as an Award of Merit from Mid-Atlantic Construction Magazine. Responsibilities Included* monitoring cost reports, maintaining project budget and resource planning.

**Hartsfield-Jackson Atlanta International Airport Runway 10-28 Paving, Lighting, and Marking Atlanta, GA - Sr. Project Manager.** This \$62 million project consisted of the construction of the airport's 5th runway, which stretches an overall length of approximately 1.7 miles, a service building, as well as the adjacent taxiways, connectors, and haul/service roads that will serve the airport. Lane was responsible for tying into the existing airport taxiways, as well as both ends of a runway bridge that span over the existing I-285 highway. The construction itself called for over 220,000 cubic yards of concrete paving, the installation of over 3000 each underdrain/lighting cans, 434,100 square yards of soil cement, 78,500 tons of asphalt paving, 272,000 cubic yards of excavation, and 123,000 lineal feet of PVC pipe. **Responsibilities Included** monitoring cost reports, maintaining project budget and resource planning.

**I-395/495 Springfield Interchange Improvements, Phase V, Springfield, VA - Project Manager/Sr. Project Manager.** Lane was lead constructor for Phase V of the Springfield "Mixing Bowl" Interchange, a \$75 million major highway and bridge contract for the Virginia Department of Transportation (VDOT). This complex interchange involved the construction of 5 new multi-span bridges and reconstruction and widening of two existing bridges with four cast-in-place retaining walls totaling 14,591 cubic meters of structural concrete. **Responsibilities Included** monitoring cost reports, maintaining project budget and resource planning.

**I-35 Hill County Project, Hill County, TX - Project Manager.** The \$44 million I-35 Hill County Project involved the rehabilitation of IH35 from FM310 to FM1304 from an existing 4-lane interstate with hot mix paving to a 4-lane interstate with 13.75" continuously reinforced concrete paving. There were eight bridge structures on the project that were reconstructed in three phases. Work began in February 1999 and was completed in September of 2004. The project used 251,524 square meters Concrete Paving, 902 cubic meters of substructure concrete, 6,411 square meters of Reinforced Concrete Slab (bridge deck) and 15,832 square meters for MSE retaining wall. **Responsibilities Included** monitoring cost reports, maintaining project budget and resource planning.

**Cut and Cover Pedestrian Tunnel, Washington, D.C. Project Manager** Lane was the Prime Contractor for the construction of a new \$7 million pedestrian tunnel by the "cut and cover" method of construction at the new Ronald Reagan Washington National Airport. This fast track project involved the construction of a new 600 ft. long pedestrian tunnel from the main passenger terminal to the new south parking structure by the "cut and cover" construction method. The 22 ft. wide by 14 ft. high cast-in-place concrete tunnel was built inside a contractor designed "support of excavation" system. The "support of excavation" involved the installation of soldier piles and lagging with intermediate levels of cross bracing. To facilitate construction of the tunnel through this busy metropolitan airport, several existing utilities had to be relocated and supported across the free span of the open excavated area. To complicate matters, the new tunnel also passed beneath an existing active Metro aerial transit rail that services the airport. The project also included all demolition work along the right-of-way, all electrical, mechanical, HVAC, plumbing, waterproofing, and site restoration. Phased construction was required in order to maintain traffic through the work area across the busy short-term parking lot and the main terminal access roadway. This project received an *Outstanding Safety Performance Award with No Recordable Accidents*. **Responsibilities Included** monitoring cost reports, maintaining project budget and resource planning.

**Flood Control Levee, Buena Vista, VA. Project Manager** Lane was the prime contractor for the construction of 2.2 miles of earthen levee, flood control walls and gated structures along the Maury River in the City of Buena Vista, VA. This \$19 million floodwall control levee required the placement of more than 400,000 cubic yards of embankment to for a 2.2-mile long levee along the Maury River. In addition to the earthen dam levee, an 800-foot long by 19-foot high cast-in-place concrete retaining wall was constructed around an existing wastewater treatment plant to protect the plant from floodwaters. Over 10,000 cubic yards of structural concrete was used to build the control structures and included a single span precast, prestressed concrete box beam bridge over the diversion canal. To keep the side slopes from eroding, more than 170,000 tons of riprap rock protection was placed on the face of the levee. **Responsibilities Included** monitoring cost reports, maintaining project budget and resource planning.



**Doug J. Russell, WSO-CSM**  
Sr. Safety Superintendent

**Project Assignment**  
**Safety Manager**

**Firm**



**Experience**

With firm **38** Total **39**

**Education**

1973/Chenango Forks Central, BOCES  
Vo Tech

**Registration**

N/A

**Training/Certificates**

- Board Certified Safety Manager
- OSHA 500
- OSHA 510
- Completed three day intensive training to qualify as one of six certified Lane Safety Trainers in the areas of:
- confined spaces, electrical safety, excavations, handling spills, lockouts, hazard communication and respirators.
- Completed two year, 22-unit Lane correspondence course in Construction Safety.

**Affiliations**

- World Safety Organization

**Responsibilities**

- Develop and implement Safety Program
- New employee orientation
- Daily site inspection and documentation
- Training seminars
- Company representation at Authority safety meetings

**PROFESSIONAL PROFILE**

Mr. Russell joined Lane in 1974 as a Surveyor/Carpenter Apprentice on Lane's I-95 project in Crum Lynne/Chester, PA During his early career with Lane, Doug's construction experience was concentrated in carpentry and welding. In 1990 he was assigned Lane's College Park project as Sr. Foreman and Assistant Safety Superintendent. Since that time, Doug has continued to concentrate his experience in construction safety. He is a board certified safety manager, and has completed training in OSHA 500 and OSHA 510 courses. Doug is also one of Lane's six certified Lane Safety Trainers having completed an intensive three-day training course that covered Confined Spaces, Electrical Safety, Excavations, Handling Spills, Lockouts, Hazard Communication and Respirators. Doug's experience and training provide the project sites he is assigned to with a competent safety officer who can be relied upon to ensure all safety regulations are being complied with.

**Project Experience**

**R tunnel Improvement/R tunnel concrete repairs phase III Architect of the Capitol-Washington, DC - Project Engineer.** In 2010 As the Prime Contractor on this \$23M project, Lane was responsible for replacing 5 tunnel egresses and building 4 new egresses, replacing 10 exhaust fans and replacing the lighting and electrical system. All this work was done to bring this tunnel, which serves the congressional office buildings and the US Capitol up to current building code standards.

**Responsibilities included:** daily site inspection and documentation, submittal review, coordination of phase control, conducting weekly QC meetings and sub contractor coordination.

**Dulles Metrorail Utility Relocation, Dulles, VA – Quality Control Manager/Job Engineer.** This \$107.3M contract includes the installation of utilities including duct bank (electrical, traction power, Verizon and common communication), waterline for Fairfax Water Authority and the City of Falls Church, sanitary sewer and storm drain. **Responsibilities included:** daily site inspection and documentation, submittal review, coordination of phase control, conducting weekly QC meetings and sub contractor coordination

**4<sup>th</sup> Runway and Associated Taxiways Paving and NAVAIDS Package. 4<sup>th</sup> Runway and Associated Taxiways Paving and NAVAIDS Package-Dulles, VA - Quality Control Manager/Job Engineer.** Lane was the prime -contractor for the construction of a new runway, taxiways, and deicing pad at Dulles International Airport. The project was broken into two contracts, and earthwork package (\$43M) and a paving package (\$148M). The earthwork package included 2,300,000 cubic yards of unclassified excavation, which was placed as embankment. The grading of the runway, taxiways, de-ice pad, and perimeter roads required more than 675 acres of clearing and grubbing, 525,000 cubic yards of topsoil stripping, 15,300 linear feet of reinforced

concrete pipe, thirteen box culverts of various sizes totaling 4,700 linear feet, and 22,000 linear feet of fencing. The paving package included the placement of 610,000 SY of 17-inch PCC Pavement, 60,000 SY of Asphalt Concrete shoulder and access roads, 883,700 SY of 6-inch Cement Treated Base Course, NAVAIDS, and lighting.



# Design-Build Conceptual PPTA Proposal

## MINNIEVILLE ROAD AND ROUTE 1 IMPROVEMENT PROJECTS



**Responsibilities included:** development and implementation of project safety plan and site inspection and documentation.

**Hartsfield-Jackson Atlanta International Airport Runway 10-28 Paving, Lighting, and Marking, Atlanta, GA - Project Safety Director.** A \$62 million airport project that consisted of the construction of the airport's 5th runway, (an overall length of approximately 1.7 miles), a service building, as well as the adjacent taxiways, connectors, and haul/service roads that will serve the airport.

**Blue Line Extension to Largo Addison Route, Section G4b, Largo, MD - Senior Foreman & Safety Superintendent.** A \$220 million major mass transportation project in suburban Washington, D.C. for the Washington Area Metropolitan Transit Authority. This design-build contract involved 3.1 miles of concrete cut and cover double box units with a concrete wall separating the inbound and outbound track.

**Phase VI Roadway Package Ronald Regan Washington National Airport, Washington DC Contract No. 1-98-C128 - Crystal City, VA - Project Engineer.** Responsible for development and implementation of Safety Program including new employee orientation, daily site inspection, documentation, training seminars, and company representation at Authority Safety meetings. Also responsible for pile driving, support of excavation, sheeting, shoring and bracing. *Winner of Lane's Safest Project Award.*



## Russell Lauer

Asst. Project Engineer

### Project Assignment Project Quality Manager

#### Firm

#### Experience

With firm 9 Total 16

#### Education

MS/2002/Building Construction Management/Purdue University

#### Registration

N/A

#### Training/Certificates

- First Aid/CPR
- American Concrete Institute
- VA and NC Erosion and Sediment Control
- NCDOT Portland Cement Concrete Pavement /Batch Plant certified
- U.S. Army Corps of Engineers Construction Quality Management

#### Responsibilities

- Quality control manager
- Daily documentation of testing and certification up to AOC standards
- submittal review
- coordination of phase control
- conducting weekly QC meetings
- subcontractor coordination
- As-built coordination
- Project punch out

## PROFESSIONAL PROFILE

Mr. Lauer began his career with Lane upon his graduation from Purdue University in 2002 as a Job Engineer on Lane's \$220M Joint Venture, Blue Line Extension to Largo Addison Route, Section G4b, MD. In 2007 he assumed the duties of Quality Control Manager and Job Engineer and in 2009 was promoted to Sr. Job Engineer in conjunction with his role as Quality Control Manager. In 2011 Russell was promoted to Assistant Project manager/Quality control Manager while working at the US Capitol on the R tunnel Improvement project. Russell is certified in Erosion and Sediment Control in both Virginia and North Carolina; North Carolina Portland Cement Concrete Pavement/Batch Plant certified and has received training from the U.S. Army Corps of Engineers in Construction Management.

#### Project Experience

**R tunnel Improvement/R tunnel concrete repairs phase III Architect of the Capitol-Washington, DC - Quality Control Manager/Asst. Project Engineer.** In 2010 As the Prime Contractor on this \$23M project, Lane was responsible for replacing 5 tunnel egresses and building 4 new egresses, replacing 10 exhaust fans and replacing the lighting and electrical system. All this work was done to bring this tunnel, which serves the congressional office buildings and the US Capitol up to current building code standards. **Responsibilities included:** daily documentation of testing and certification up to AOC standards, submittal review, coordination of phase control, conducting weekly QC meetings and sub contractor coordination.

**Runway 1C-19C Rehabilitation Washington Dulles International Airport-Dulles, VA - Quality Control Manager/Sr. Job Engineer.** As the Prime Contractor on this \$24M project, Lane was responsible for removal and replacement of 7, 000 linear feet of runway and replacement with 75,000 cubic yards of 19" concrete pavement using an on-site batch plant, including soil cement and cement treated sub-base with runway lighting systems, under drain, utilities, and asphalt shoulders. Project constructed in two phases to limit impact to active airport traffic. The first phase completed on time in 90 days and the second phase was completed on time in 110 days. **Responsibilities included:** daily documentation of testing and certification up to FAA and Army Corps. standards, submittal review, coordination of phase control, conducting weekly QC meetings and sub contractor coordination.

**4<sup>th</sup> Runway and Associated Taxiways Paving and NAVAIDS Package-Dulles, VA - Quality Control Manager/Job Engineer.** Lane was the prime -contractor for the construction of a new runway, taxiways, and deicing pad at Dulles International Airport. The project was broken into two contracts, and earthwork package (\$43M) and a paving package (\$148M).



The earthwork package included 2,300,000 cubic yards of unclassified excavation, which was placed as embankment. The grading of the runway, taxiways, de-ice pad, and perimeter roads required more than 675 acres of clearing and grubbing, 525,000 cubic yards of topsoil stripping, 15,300 linear feet of reinforced concrete pipe, thirteen box culverts of various sizes totaling 4,700 linear feet, and 22,000 linear feet of fencing. The paving package included the placement of 610,000 SY of 17-inch PCC Pavement, 60,000 SY of Asphalt Concrete shoulder and access roads, 883,700 SY of 6-inch Cement Treated Base Course, NAVAIDS, and lighting. **Responsibilities included:** daily documentation of testing and certification up to AOC standards, submittal review, coordination of phase control, conducting weekly QC meetings and sub contractor coordination.

**North Wake Expressway, I-540, Wake County, NC - Job Engineer.** In 2003 Lane began work on I-540, one of the largest new highway construction projects in North Carolina. I-540, also known as the North Wake Expressway, is the northernmost section of a planned Outer Loop around Raleigh. As the prime contractor, on this \$108.5M contract, Lane was responsible for construction of two new consecutive sections of I-540 between US 55 and I-40. Lane cleared in excess of 200 acres, moved more than 1.9 million yards of excavation materials and 3.5 million metric tons of borrow and placed 110,000 tons of base course, 197,000 metric tons of asphalt and 115,000 cubic yards of concrete pavement. Lane also built 21 bridge structures, with work including box culverts and three stream realignments. Responsibilities included subcontractor coordination, quantity tracking and pavement quality tracking, traffic management, erosion and sediment control management, coordination of on-road earthmoving operation, and cost tracking. **Responsibilities included:** submittal review, coordination of phase control, participation in weekly QC meetings and sub contractor coordination.

**Blue Line Extension to Largo Addison Route, Section G4b, Largo, MD - Job Engineer.** Under the "Best Value" Design-Build method of contracting, the design-build team of, constructed a \$220 million major mass transportation project in suburban Washington, D.C. for the Washington Area Metropolitan Transit Authority. This design-build contract involved 3.1 miles of concrete cut and cover double box units with a concrete wall separating the inbound and outbound track. Several multi-span viaduct structures on concrete piers were constructed along with retained cut reinforced concrete walls. Extensive mechanical and electrical systems including tunnel ventilation systems as well as track electrification were also included in the design-build contract. All track work and automated control systems including train protection, train operation and automatic train supervision provided WMATA with a complete system ready for use in the fall of 2004. **Responsibilities included:** submittal review, coordination of phase control, participation in weekly QC meetings and sub contractor coordination.

**K&H Construction, Fort Wayne, IN - Assistant Field Engineer.** Duties included moving construction equipment, building foundations for guy anchor towers, aligning anchor bolts and assisting in concrete slab pour, laying out foundations and ordering materials.

**Schnelker Engineering, Inc., Fort Wayne, IN Draftsman/CAD Technician,** Duties included operating a computer aided drafting machine, drafting with pen and ink, surveying for sanitary sewers and water mains, crew chief for survey team.





**Dennis N. Rodkey**  
Project Superintendent

**Project Assignment**  
**Project Superintendent**

**Firm**



**Experience**

With firm **34** Total **34**

**Education**

**HCCA Competent Person Training**

Underground Construction, Soils Testing, Shoring, Trucking, Hazard Awareness, OSHA Regulations

**Mansfield State University**

Geology and Land Use courses  
Structural Geology

**Lockhaven State University**

Associate Degree – Physical Training

**Sellingrove High School**

College Prep Courses

**Responsibilities**

- Implement & Manage Quality Control Plans
- Submittal Reviews
- SPPP Inspections
- Subcontractor Coordination
- Schedule Maintenance
- Invoice Preparation
- Client Liaison

**PROFESSIONAL PROFILE**

Dennis has 34 years of construction experience. He has worked his way through the ranks beginning as a Grade Forman to currently serving as a Site Superintendent. Dennis experience includes site supervision of trades, coordination of sub schedules, maintaining daily superintendent reports, safety, and quality control.

**Project Experience**

**Early Transitions to Existing Pavements Package, Dulles International Airport – Project Superintendent.** Assist in taxiway closures, night shift safety, day shift organized excavation and drainage crews. Aggregate for site and concrete plant deliveries. Direct escorts in secure area. **Responsibilities included:** implement and manage construction foremen and their crews.

**Dulles Rail Project Phase 1, Fairfax, VA -Superintendent**  
Relocation of major utilities in Tysons Corner, VA for the Dulles Rail Extension to Wiehle Ave, Reston, VA.

**Washington Dulles International Airport – Dulles, VA- Field Superintendent.** Coordinate field operations, deliveries, and subcontractors. Conduct weekly safety training.

**Washington Dulles International Airport, Dulles, VA - Superintendent.** Organized field operations and subcontractors. Ensure safe work environment.

**Washington Dulles International Airport, Dulles, VA - Superintendent**  
MWAA Contract 1-98-C055. Organized and executed field operations in a timely and safe manner for day and night shift operations on the Bravo Ramp Expansion Project.

**Washington Dulles International Airport, Dulles, VA - Superintendent**  
Maintenance Contract 5 Parking Lots. Organize crews between all 5 parking lots and site material deliveries

**VDOT Fairfax County Parkway, Ft. Belvoir, VA -Superintendent**  
In charge of field operations, excavation, bridge and box culvert, backfill grading, drainage, stone placement. Also conducted weekly safety training



### Jesse Edwards

Project Engineer

**Project Assignment**  
**Project Controls Manager**

**Firm**



**Experience**

With firm **5** Total **40**

**Education**

High School Diploma/1970

*Other credits include:* Surveying, Partnering, Customer Service, Employee Relations and Supervision

**Registration**

N/A

**Training/Certificates**

- NICET Level IV
- Primavera Project Planner:
  - Course 601 Planning and Scheduling
  - Course 602 Resource and Cost Analysis
  - Course 603 Managing Project Data
  - Project Management in Primavera P6
  - Transportation Construction Management Institute (VPI)
  - False Claims Act

**Responsibilities**

- Develop baseline schedules and monthly updates in Primavera P3 and P6
- Manage the T&M and pay application process on \$100+ million dollar contract
- Document changed conditions and submit and negotiate proposals
- Manage subcontractor proposals

### PROFESSIONAL PROFILE

Mr. Edwards has 40 years of experience, in highway construction and site development. While with the Virginia Department of Transportation (VDOT), he held positions such as Inspector, Project Engineer and Assistant Resident Engineer. Before joining Lane, he served as a Contractor Scheduling Engineer/Manager on various Interstate Highway construction projects in Northern Virginia. Jesse has been responsible for preparing project schedules on Lane projects for five years and understands the importance of updating CPM schedules in order to improve production/progress and support change orders and/or time extensions.

Jesse’s scheduling experience includes preparation and analysis of contractor CPM schedules. He is responsible for reviewing the plans and scheduling specifications, as well as inserting the necessary logic into Primavera (i.e. activity relationships, durations, resources, costs, resource leveling, project and activity codes, work breakdown structure, constraints, calendars, special layouts, filters, scheduling reports, etc.).

#### Project Experience

**Dulles Metrorail Utility Relocation, Dulles, VA – Project Engineer.** This \$107.3M contract includes the installation of utilities including duct bank (electrical, traction power, Verizon and common communication), waterline for Fairfax Water Authority and the City of Falls Church, sanitary sewer and storm drain. **Responsibilities included:** Develop and update CPM schedule (Primavera scheduling program) on \$110,000,000 worth of work. Prepare T&M and other payment application documents, including change order proposals.

**Automated Peoplemover Package 6 Washington Dulles International Airport Project, Dulles, VA - Project Engineer.** Responsible for revising and updating the CPM schedule on this \$104 million dollar project.

#### Other Experience

##### **CPM Schedule Development**

- VDOT Interstate Interchange, Springfield VA, (\$138M)
- I-495 Capital Beltway HOT Lanes Project,(\$1.5B)
- VDOT Gilbert’s Corner Route 50 Traffic Calming \$13 M D-B)
- MDSHA MD 237 Initial Activities Chart and a major portion of the baseline schedule.



**MOORE BROTHERS COMPANY, INC–Verona & Northern Virginia - Scheduling Manager.** Key participant in development of baseline CPM schedule for Interstate 66 project in Northern Virginia between Manassas and Gainesville. Developed and submitted monthly schedule updates to VDOT.

**NEW CONSTRUCTION, INC & EDWARDS CONSULTING SERVICES–Northern Virginia - Vice President, Contract Administrator.** Developed baseline CPM schedules and monthly updates on VDOT Northern Virginia projects such as Smithsonian Air & Space Museum Roadway, Parking Lots & Utilities between Routes 50 and 28, Fairview Avenue widening in City of Manassas, Stringfellow Road Commuter Lot, Western Regional Park & Ride Facility, Route 7 widening at Dranesville, and I-95 & Route 123 Commuter Lots. Performed similar scheduling on numerous Airport projects not mentioned above at Dulles International Airport, Manassas Regional Airport, Leesburg Airport, and Front Royal Airport.

**HNTB (1995-1998) for VDOT–Northern Virginia - Consultant Resident Engineer.** Managed two Route 234 Bypass contracts in Prince William County. Developed change orders and claims analyses (including compensable time disputes) for VDOT residency offices and District Construction Engineer.

### **VDOT**

- **Assistant Resident Engineer (1993-1995) (for VDOT District Construction Engineer-Northern VA)**
  - Coordination of primary, interstate and urban design for VDOT in Northern, VA. Managed the change order and claims processes.
- **Project Engineer (1985-1993)**
  - Reviewed CPM schedules and monitored related progress on numerous VDOT projects such as I-66 Rosslyn Pedestrian Plaza, Route 1 widening in Crystal City, 234 Bypass from Route 28 to Balls Ford Road, I-95 projects from Stafford County to the Capitol Beltway and initial Dulles Toll Road projects. Handled contract administration for same.
- **Inspector (1969-1984)**



## Maurice DeBeary, Jr., PE

Project Director

### Project Assignment **Design Manager**

#### Firm



**GREENHORNE & O'MARA**  
 CONSULTING ENGINEERS

#### Experience

With firm 5 Total 27

#### Education

BS/1983/ Architectural/Structural Engineering; North Carolina A&T State University

#### Training/Certificates

- 2001/Seismic Design of Bridges - ASCE
- 2002/Drilled Shaft Design - FHWA
- 2004 - WMATA
- 2005 - AMTRAK/CSX
- 2006/2010 Bridge Inspection Refresher Course No. 13005 - NHI/FHWA
- 2006 - AASHTO/NSBA Steel Bridge Design, Maryland State Highway Administration
- Certificate/Leadership and Development (GOLD) Program, 2008 - G&O
- 2008/LRFD for Highway Bridge Superstructures - Steel, University of Maryland
- 2010-NHI Fracture Critical Inspection
- 2011-NHI Non-Destructive Evaluation
- 2011-NHI Ancillary Highway Structures

#### Registration

Professional Engineer: VA, 1999, #33790  
 Also registered in MD, DC and PA

#### Affiliations

- American Society of Civil Engineers
- Maryland Engineers Association
- American Society of Highway Engineers
- American Road and Transportation Builders Association
- Metropolitan Washington Road and Transportation Builders Association

### PROFESSIONAL PROFILE

Mr. DeBeary is a **Virginia Registered Professional Engineer** with 27 years of experience specializing in the design management as well as hands-on design of transportation facilities. His broad experience encompasses the design and management of transportation projects involving design-build and PPTA methods of project delivery. In recent years he has served in such roles for major highway and bridge projects for Virginia DOT, District DOT, Maryland SHA, Maryland Transportation Authority, and other Metro-Washington governmental jurisdictions. He is thoroughly familiar with VDOT, AASHTO and FHWA design and construction policies, procedures and guidelines.

#### Project Experience

**Route 125 Bridge Replacement, Suffolk County, VA for VDOT - Project Manager.** Responsible for final design and preparation of construction documents for this 1,200-meter bridge replacement project over the Nansemond River in Suffolk. The project investigated relocation of the existing channel to provide better alignment of the new bridge. Conceptual design included a life cycle cost analysis of the proposed bridge and a low-level movable bridge alternate. The proposed bridge crosses an existing navigable channel with a vertical clearance of 20 meters and a horizontal clearance of 30 meters and required close coordination with the Army Corps of Engineers, Waterways and Ports Branch. Total construction cost was estimated at \$27 million.

**US Route 1 at Neabsco Creek, Prince William County, VA - Deputy Project Manager.** The project involved improvements and widening of US Route 1 to an ultimate section of three lanes in each direction, bicycle lanes, a 28' median, a multi-use trail and pedestrian sidewalks. Assisted the project manager in the administration and coordination of design work including coordination with the project hydraulic engineer and highway engineer to ensure all requirements for design flood, constructability and maintenance-of-traffic were addressed. Prepared preliminary and final design of the replacement bridge over Neabsco Creek. The existing roadway and bridge vertical profile were raised approximately ten feet over Neabsco Creek requiring extensive construction staging.

**Route 895 Connector PPTA, Richmond, Virginia, c/o Fluor Daniel/Morrison Knudsen for VDOT - Structural Manager.** The Route 895 project design was performed on a fast-track pace and involved construction of 7.4 km (4.6 miles) of new highway and associated structures. This was VDOT's first design-build project under their Public-Private Transportation Act (PPTA) of 1995. Responsibilities included overseeing final design and the preparation of final contract documents and specifications for seven grade separation structures.



The bridges consisted of four single-span and three two-span (one curved) continuous composite steel girders. All plans and specifications were developed utilizing the metric system and in accordance with VDOT standards and criteria. The construction cost was \$320 million.

**Manassas Route 234 Bypass, Prince William County, VA for the VDOT — Project Engineer.** Responsible for horizontal alignment design using RDS and IGrds CADD software and Intergraph MicroStation for this 9.8-mile-long project. Project involved conceptual, preliminary, and final design; construction and right-of-way plans for a limited access highway on new alignment in an industrial/suburban area, including six interchanges

**“Award Winning” I-95 ETL-Section 100, Segment 1 Design (Joint Venture), Baltimore City/County, MD for MDTA — Deputy Project Manager** (lead JV firm). The project included design for reconstruction of 3.6 miles of I-95/I-895 to accommodate Express Toll Lanes in the median of I-95. Design work included reconfiguration of I-95/I-895 Interchange; replacement of Moravia Road, Moravia Park and Moores Run Bridges on I-895; extension (along the length) of Chesaco Ave. Bridge; modifications of Hazelwood Avenue Bridge; 4+ miles of retaining and noise walls; development of complex maintenance of traffic schemes; environmental permitting; ITS; E&S; 6 SWM ponds including remediation for HAZMAT in the ponds; and all associated roadway work. Responsibilities included the day-to-day oversight and coordination of design work; coordination of work between the JV firms and fourteen (14) subconsultants; overall JV invoicing; and QA/QC of all design work (including structures, roadway, SWM, erosion and sediment control, highway lighting, utility relocation, construction schedule and cost estimates). Three construction packages were prepared totaling \$230 million. The engineer’s estimate for construction dollars for all three packages were in-between the two low bids. Provided engineering services during construction including attending partnering meetings. The design for the first contract (KH-1501) was prepared on a fast-track basis; approximately 700 drawings were prepared and the project was completed and advertised in 7 months. This contract won the 2010 Maryland Quality Initiative Award of Excellence in the Consultant Structures Design and Partnership Categories.

**Blue Line Extension to Largo Town Center Design-Build, Prince George’s County, MD, c/o Lane Construction Corporation/Slattery Skanska, Inc. for the Washington Metropolitan Area Transit Authority – Structural Manager.** The Largo Extension included a 3.1-mile extension of the Blue Line Metrorail from the existing Addison Road Station to the proposed Largo Town Center Station. The extension consists of at-grade, underground and aerial double track alignment. Final structural design work included cut-and-cover and covered concrete box structures, aerial guideways consisting of steel girders with composite concrete deck, steel through girders, multi-cell box culverts, conventional concrete retaining walls, parts of two new transit stations, a underground rail car storage facility and a 2,200 space parking structure. Approximately 2,000 ft. of the extension is elevated guideways. The construction cost for the line section and two stations was \$434 million.

**“Award Winning” Replacement of I-70 Bridges over Black Rock Road Design-Build, Washington County, MD, c/o Ahern & Associates Construction for MDSHA – Deputy Design Manager.** The project involved design and construction of replacement bridges carrying I-70 over Black Rock Road, approach roadway work on I-70, reconstruction of Black Rock Road, and replacement of a single cell culvert. Replacement bridges were constructed in stages using a temporary detour bridge built in the median of I-70. Also served as the design-build coordinator between the design and construction teams. Mr. DeBeary was responsible for all the design activities including coordination work among the structures, highway, H/H & drainage, traffic, and environmental disciplines. Assisted the design manager in administration of the contract with the design-builder, and obtaining design approvals from MDSHA. Checked substructure calculations and all structures-related construction plans; coordinated structures work with the MOT/Roadway work; reviewed shop and working drawings; and attended partnering meetings. The construction cost for this project was \$6.7 million.

**Proposed Inter-County Connector (ICC) Design-Build, Montgomery and Prince George’s Counties, MD for MDSHA. Project Engineer** Key member of Design Team and Structural Team Leader for the Lead Designer. Work included alternative studies and Pre-TS&L bridge design for part of the Design- Build ICC Corridor 2 (East of MD 97 to West of US 29) segment. Due to environmental impact concerns at stream crossings, Pre-TS&L design and drawings were initially developed for three stream crossings chosen by the General Engineering Consultant for inclusion in the Environmental Impact Assessment package. The major controlling/limiting factors for Pre-TS&L were pier locations due to 100-year flood plan (offset of 30 ft was required) and constructability/access concerns.



**Kevin Huang, PE**  
 President

**Project Assignment**

**H & H / SWM / E&S Engineer**

**Firm**

**Endesco, Inc.**

**Experience**

With firm **3** Total **16**

**Education**

MS/1995/Highway Engineering  
 BS/1991/Water Resources Engineering

**Training/Certificates**

Professional Engineer: VA/#047388; also registered in MD  
 MSHA/Erosion & Sediment Control

**PROFESSIONAL PROFILE**

**Mr. Huang** has more than 19 years of experience in water resources and transportation projects with expertise in hydrology/hydraulics. His responsibilities include stormwater management design (SWM), erosion and sediment control design (E&SC), highway hydraulics and culvert analysis. He is a Certified Stormwater Management and Erosion and Sediment Control Plan Reviewer for MDE.

**Project Experience**

**InterCounty Connector Project, Contracts "A" and "B", Montgomery County, MD, MDSHA and MDTA) -Lead Drainage Engineer** responsible for the drainage design, SWM E&SC support and supervising development of the watershed model using ArcView, ArcInfo and ArcGIS for this 16 miles of this major D/B project with five interchanges connecting I-270 to MD-29

**I-95/I-495/MD Route 210 Interchange Reconstruction (Woodrow Wilson Bridge Project) MDSHA- Drainage Task Manager** responsible for all drainage related aspects of the project, including the requirements for open/closed storm drain design, erosion and sediment control and SWM facilities for the interchange reconstruction and each of the four construction contracts in Maryland. Coordinated design of the total project to separate the drainage into four separate construction contracts and determined how the drainage patterns could be incorporated into multi-phases for construction.

**Route 1, Neabsco Creek Bridge, Prince William County, VA (for Virginia Department of Transportation [VDOT])- Lead H&H Engineer** Prepared FEMA LOMR applications for Neabsco Creek under Route 1 based on AS-Built survey of VDOT Route 1 Project.

**Route 123 (Chain Bridge Road) over Accotink Creek Bridge Replacement, City of Fairfax, VA- Lead Engineer** responsible for Drainage Design, SWM, H&H Analysis, Phased E&S Plans, Utility Coordination, FEMA CLOMR permitting and Waterline Relocation Design.

**Limited Services Design Contract Statewide- Lead Engineer** responsible for Drainage Design, H&H, Scour Analysis including Runoff analysis, Culvert Analysis using HY-8 and Flood Plain analysis using HEC-RAS to determine alternative bridge waterway and design and Channel Relocation. of Task 1 - Reconstruct Old Bon Air Road at the intersection of Groundhog Drive in Chesterfield County, VA.



***E. Main Street Widening (Rte 460) from the intersection of Thompson Memorial Dr.(Route 311) to just past Kessler mill Rd. in City of Salem, VA- Lead Engineer*** responsible for H&H Analysis, Drainage Design, SWM, Phased E&S Plans.

***I-95/MD 24 Interchange Improvements, MD MDSHA- Drainage Task Manager*** responsible for all drainage related aspects of the project, including open/ closed storm drain design, SWM and facility design, E&SC, flood plain study, and culvert analysis. Supervised development of mapping utilizing ArcInfo for spatial analysis and the creation of presentation quality maps for the report.

***InterCounty Connector Corridor 1 Engineering Alternatives from east of MD 97 to West of US 29, MDSHA-*** Developed preliminary SWM and drainage concepts for Draft Environmental Impact Statement and cross-culverts for 7-mile corridor utilizing SCS methodologies for use in preparing the Waterway Construction Permit Application

***Stormwater Management and Erosion Sediment Control Review Open-End Contract. Maryland State Highway Administration (MDSHA) - As MDE Reviewer,*** provided design review services on behalf of the Maryland Department of the Environment (MDE) for various SHA projects. The projects were reviewed with respect to SWM and E&SC designs to determine if the designs, calculations and specifications were in conformance with MDE design standards and criteria.

***Bridge Scour Analysis and retrofit measures for CONSPAN bridges in VA and MD using HEC-18, HEC-23, VDOT Drainage Manual and MDSHA ABSCOUR programs.***

- Crossroads at Leesburg, Loudon County, VA
- Tuscarora High School (HS-5) BEAM/SPAN Bridge, Loudoun County, VA.
- Tuscarora High School (HS-5) CON/SPAN Bridge, Loudoun County, VA.
- Hi-Rock Ridge Road CON/SPAN Bridge Jamison Farm, Section 3, off Lee Highway (Route 29), Fauquier County, VA.
- Arcola I CON/SPAN Bridge Section 1B & 2- The Grange at Willowsford, Loudon County, VA.
- HA-2, Mine Road, BEBO Bridge Crossing Stafford, Prince William County, VA.
- Monocacy Boulevard Bridge over Carroll Creek, City of Frederick, MD.
- CONSPAN Bridge in Turf Valley II, Howard County, MD.



## Cody Smith, PE, LEED Green Assoc.

Branch Manager

### Project Assignment

**Lead Roadway Engineer**

### Firm



**GREENHORNE & O'MARA**  
 CONSULTING ENGINEERS

### Experience

With firm **4** Total **12**

### Education

MS/1999/Civil Infrastructure Engineering; Virginia Polytechnic Institute and State University

BS/1996/ Civil Engineering; Virginia Polytechnic Institute and State University

### Registration

Professional Engineer: VA, #10691  
 LEED Green Association

### Training/Certificates

– 1999/Construction Management

### Affiliations

- National Association of Industrial and Office Properties
- Urban Land Institute
- Northern Virginia Building Industry Association

## PROFESSIONAL PROFILE

Mr. Smith is **Virginia Registered Professional Engineer** with 16 years experience in project management, civil engineering and construction management. He has experience in both the public and private sectors and has a well-rounded knowledge of development projects though his role as both an owner's representative and consultant. He has directed and prepared feasibility studies, master plans, and construction drawings for a wide variety of projects, including major transportation infrastructure, wetland creation, new communities, marinas, parks, urban high-rise development, military infrastructure, airport infrastructure, resorts, electric infrastructure, reservoirs, pump stations, bridges, regional parks, pools and recreation buildings. Mr. Smith's expertise also includes presentations to planning boards and City/County commissioners, and coordination with Federal, State, and local agencies regarding project reviews and approvals.

### Project Experience

**Loudoun County Parkway, Loudoun County, VA. Project Manager** for the design and construction of approximately 3 miles of Loudoun County Parkway through South Riding in Loudoun County, Virginia. Project scope included intersection improvements with Route 50, traffic signals, bridge structures and lighting.

**Ashton Avenue (Rte. 1600), Prince William County, VA.** As a member of Prince William County Road Bond Branch, served as the **Project Manager** overseeing the engineering and construction of approximately one mile of new four-lane roadway between Rixlew Lane and Crestwood Drive including utility relocation, storm water management and right-of-way acquisition.

**University Boulevard, Prince William County, VA.** As a member of Prince William County Road Bond Branch, served as **Project Manager** responsible for the design and construction of road and utility infrastructure necessary to accommodate the 1,500 acre business and technology park developed by Prince William County.

**Cardinal Drive (Rte. 610), between Route 1 and Waterway Drive, Prince William, VA.** As a member of Prince William County Road Bond Branch, served as **Project Manager** for the design and construction of approximately two miles of the realignment of Cardinal Drive. The project included significant utility relocation, right-of-way acquisition, coordination with the Virginia Department of Transportation and the resolution of complex construction issues such as the tie in to U.S. Route 1. .





# Design-Build Conceptual PPTA Proposal

## MINNIEVILLE ROAD AND ROUTE 1 IMPROVEMENT PROJECTS



***Dale Boulevard Benita Fitzgerald Intersection Improvements, Prince William County, VA.*** **Project Manager** for the design of intersection improvements at Dale Boulevard and Benita Fitzgerald Drive. Project included storm sewer system upgrades, turn lane extensions and traffic signal analysis.

***Lomond Drive (Rte. 1530) Bridge over Flat Branch, Prince William, VA.*** As a member of Prince William County Road Bond Branch, served as **Project Manager** for the design and construction of the Lomond Drive Bridge over Flat Branch including realignment of Lomond Drive at each bridge approach.

***Old Bridge Road (Rte. 641), between Minnieville Road and Occoquan Road, Prince William, VA.*** As a member of Prince William County Road Bond Branch, served as **Project Manager** for the design and construction of approximately one mile of road widening. The project included the acquisition of right-of-way, utility relocation, and construction management.

***McCarron Airport Terminal Expansion, Las Vegas, NV.*** **Project Manager** for the design of more than three miles of electrical duct bank to be installed within the median of Tropicana Avenue. Due to the extremely high traffic volume within the project limits, a special emphasis on maintenance of traffic and construction methods was necessary. The project required more than 300 test pits as well as close coordination with Nevada Power.



## Bimal Patel, PE

Department Head

### Project Assignment

### Lead Structural Engineer

### Firm



**GREENHORNE & O'MARA**  
 CONSULTING ENGINEERS

### Experience

With firm **8** Total **27**

### Education

BS/1982/ Civil Engineering; S.P.  
 University India

### Registration

Professional Engineer: VA, #22041

### Training/Certificates

- 2001/Seismic Design of Bridges - ASCE
- 2002/Drilled Shaft Design - FHWA
- 2004/WMATA
- 2005/AMTRAK/CSX
- 2006/AASHTO/NSBA Steel Bridge Workshop
- 2010 National Institute Bridge Inspection Refresher course

### Affiliations

- American Society of Civil Engineers
- American Society of Highway Engineers

## PROFESSIONAL PROFILE

Mr. Patel is a **Virginia Registered Professional Engineer** with 27 years of experience in transportation related structures design projects. His experience includes serving as lead structural engineer on design-bid-build as well as design-build projects. He has served in this role for projects in Virginia, Maryland, District of Columbia and other states. He is thoroughly familiar with VDOT, AASHTO and FHWA specifications, standards, and guidelines for structures design. He has managed and has performed hands-on design from conceptual study to final design and preparation of plans for rehabilitation, replacement and new bridges for highway structures over land, waterway and railroads.

### Project Experience

**Britton Road Bridge over I-895 Connector PPTA Project, FD/MK, Henrico County VA. Senior Structural Engineer** responsible for engineering services during construction including shop drawing reviews, coordination with the Design-builder, and attending progress meetings for a two span, prestressed concrete girder bridge superstructure supported on reinforced concrete pier and abutments.

**Layhill Road over CSXT Railroad, Maryland Development Company, c/o Stafford County, VA. Project Engineer** for a three span, continuous steel girder bridge supported on reinforced concrete pier and integral abutments. Responsible for day-to-day design activities on the project; and coordination with CSXT, the developed, Stafford county and VDOT.

**North Loop Road over Accotink Creek, National Geospatial Agency, Fort Belvoir, VA. Structural Task Manager.** Responsible for concept studies, preliminary design and final design, and preparation of construction plans and documents for a new bridge structure over Accotink Creek and design of retaining walls. The bridge structure consists of a three-span (126'-194'-126') steel girder superstructure with reinforced concrete deck supported on drilled shaft piers and stub abutments. Also, provided engineering services during the construction.

**"Award Winning" Replacement of I-70 Bridges over Black Rock Road Design-Build, Washington County, MD, c/o Ahern & Associates Construction for MDSHA - Senior Structural Engineer.** This \$6.7M project involved design and construction of replacement bridges carrying I-70 over Black Rock Road, approach roadway work on I-70, reconstruction of Black Rock Road, and replacement of a single cell culvert. Replacement bridges were constructed in stages using a temporary detour bridge built in the median of I-70. He led the design of the structures on this project and performed QA/QC of the bridge design plans.



***I-595 Express Toll Lanes, Zone 6 D/B-3P, AECOM c/o Dragados USA, Inc. for FDOT, Broward County, FL. Lead Structural Engineer*** for preliminary and final design, preparation of plans and construction documents for 3 bridges for Zone 6 within this \$1.2B, 10-mile-long 3P toll facility project. The final design services for Zone 6 included over 3-miles of I-595 reconstruction, modifications to and partial reconstruction of Ramp N over University Drive, Ramp Q1 Bridge over University Drive, Braided Ramp P Bridge over SR 85, and Braided Ramp Q3 Bridge over SR 85. Mr. Patel was responsible for the design of Ramp Q1, Ramp P, and Ramp Q3. The braided ramp structures consisted of steel plate girder superstructures with a integral pier steel pier caps. He performed QA/QC of Ramp N design and construction plans. The existing Ramp N is a 977' third-level, twin steel box-girder Flyover Bridge. Initially, this ramp was planned for replacement; to save costs, Simon developed an innovative concept to save the existing bridge by re-alignment of ETLs and retrofit/strengthening of the existing bridge. to achieve the vertical clearance under the bridge over new ETLs, the entire bridge will be jacked and raised 18", the south 200' of the bridge will be replaced with a new section having new integral pier (straddle bent) and on a spiral curve, foundations of Piers 3 & 4 will be strengthen using post-tensioning, top half of Pier 4 will be reconstructed using a new cap for additional vertical clearance requirements, and the existing steel box girders will be retrofitted with cover plates, etc. to meet the serviceability and fatigue requirements of LRFD design.

***Replacement of Lakewood Pedestrian Bridge over Wootton Parkway Design-Build Project; Fort Myer Construction Co. c/o DPW, City of Rockville, MD. Project Manager.*** Provided management of the design and coordination work with the contractor and the City for replacement of this 110-foot single span steel truss bridge with a single span prefabricated steel pony truss structure. Work included design and construction of ADA compliance ramps adjoining neighborhood to the elementary school via the bridge.

***Santa Rosa Island Range Access Road, Design-Build; Eglin AFB, FL; C. W. Roberts Contracting, Inc. for US Army Corps of Engineers, Mobile District.*** This \$42 million design-build project included reconstruction of 13.1 linear miles of the existing 13.3-mile roadway. Mr. Patel served as the **Lead Structural Engineer** responsible for the design of 8.5-linear miles of sheet piling wall adjacent to the roadway shoulders for protection against erosion and scour resulting from hurricane storm surge. He performed QA/QC of the structural design and plans.

***Reconstruction of Edmondson Avenue Bridge over Gwynns Falls and CSXT, Baltimore City DOT; Baltimore, MD. Lead Structural Engineer.*** The existing structure, built in 1907 and widened in 1972, is located in an urban setting in Baltimore City and carries Edmondson Avenue (US 40) between Hilton Parkway and upper Ellicott Driveway. Conducted field investigation and rehabilitation studies, and performed studies for rehabilitation vs. replacement alternative. Based on the results of this investigation, conclusion was reached by the FHWA, MDSHA, and the City that this bridge should be replaced in lieu of major rehabilitation or partial reconstruction. Mr. Patel is leading the design for a replacement bridge consisting of a four-span (130'-131'-95'130') prestressed concrete structure supported on shallow foundations and multi-column piers (85-foot tall piers) and cantilever abutments on steel h-piles. A separate reinforced concrete (pre-cast segments) arch structure is designed to serve as a facade for the proposed bridge simulating the aesthetic of the existing bridge. The structure is designed to accommodate the future Red Line light rail facility on the bridge. Mr. Patel was responsible for day-to-day design activities and coordination of work for highway engineering and roadway design for reconstruction of the approaches including drainage, storm water management, sediment & erosion control; traffic engineering and maintenance of traffic plans for staged construction; environmental engineering and permits including Section 106, Section 4(f) and other NEPA documentation, coordination with Maryland Historic Trust (MHT), Maryland Department of Environment (MDE); Maryland National Park & Planning Commission (MNCPPC), and Maryland Transit Administration (MTA); water main relocation design, other utility coordination/relocation design and conduit inspection; and development of CPM Schedule for construction.

***"Award Winning" Reconstruction of Eastern Avenue and Kenilworth Avenue Interchange, NE, Washington DC, for DDOT – Task Manager.*** This project involved reconstruction of the interchange including replacement of the existing single span bridge with a 2-span structure to accommodate additional vertical clearance over Kenilworth Avenue. Innovative accelerated construction technique using precast superstructure and substructure elements was utilized. This, along with an efficient maintenance of traffic scheme, enabled reconstruction of this interchange in 9 months. Responsible for preparation of design drawings, contract documents and coordination with DDOT, DDOE, DC Water and various other agencies.



**David Malinoski, Jr., PE,**  
Project Manager

**Project Assignment**  
**Utility Design Coordinator**

**Firm**



**GREENHORNE & O'MARA**  
CONSULTING ENGINEERS

**Experience**

With firm **12** Total **22**

**Education**

BS/1978/Civil Engineering; Northeastern University

**Registration**

Professional Engineer: VA, #31971

**Training/Certificates**

– 1999/Construction Management

**Affiliations**

- American Public Works Association
- American Society of Civil Engineers

**PROFESSIONAL PROFILE**

Mr. Malinoski is a **Virginia Registered Professional Engineer** with over 33 years of experience in the management, design and coordination of transportation, site improvement and utility projects. His expertise is in relocation design and coordination of utility relocations, particularly in Virginia. Over the past 12 years, he has been involved in many major design-build and PPTA projects in Virginia providing utility relocation coordination and design services. He is intimately familiar with all utility companies and VDOT procedures having provided the utility coordination and design services on such projects. In addition, he has personally completed and has been responsible for the supervision of survey and design engineers in the preparation of boundary, topographic and planimetric surveys; traffic studies; road geometry and highway plan preparation, all in accordance with VDOT, AASHTO and FHWA specifications, standards, guidelines and procedures. He is proficient in the application of various civil engineering computer software on infrastructure projects including MicroStation, AutoCAD, Microsoft Project and Primavera Project Planner.

**Project Experience**

***I-495 Capital Beltway HOT Lanes 3P, Utility Relocations, Fairfax, VA for Fluor-Lane, LLC c/o VDOT – Utility Engineer.*** Responsible for coordinating utility relocations and design of water and sewer relocations for 14 miles of interstate roadway widening that adds high occupancy toll lanes. Tasks included analyzing utility conflicts, conducting the utility field inspections, coordinating the relocation of existing utilities, and reviewing utility relocation plans and estimates. Relocation designs include 12-inch and 16-inch ductile iron waterlines on three new bridge attachments and 20-inch PCCP relocation in conflict with bridge pier construction. New bored crossings were designed to replace existing gravity sewers in conflict with the roadway widening. An 1800 LF duct bank was designed for telephone and CATV relocation.

***I-95/US Route 1 Interchange at Woodrow Wilson Bridge Utility Relocation, Alexandria, VA for Virginia DOT - Utility Engineer*** for relocation of 2,500 lf of fiber optic duct bank and of 12,500 lf overhead power into underground duct banks crossing interchange, interstate and arterial highway and waterway in 5 phased construction contracts.

***Jones Point Park Comfort Station, Alexandria, VA for VDOT - Project Manager*** responsible for the design of new and relocated utilities serving the new comfort station located under the Woodrow Wilson Bridge. Designs included fire flow modeling for a waterline extension, 1790 LF of six-inch waterline, 1000 LF of eight-inch gravity sewer, 2000 LF of telecommunication duct and 1800 LF of six-inch two-way electric duct.



**Route 10 Utility Design, Chesterfield County, VA - Project Manager** responsible for preparation of design plans and specifications of water, gravity sewer and sewer force main relocations for nearly one mile of four-lane roadway widening and bridge replacement project. Relocations include 3000 LF of 12-inch ductile iron waterline, 2000 LF of 24-inch ductile iron sewer force main and 1500 LF of 10-inch gravity sewer. Tasks included sewer flow analysis, cost estimates, betterment calculations and preparation of CSX railroad permit for bored utility crossing.

**Route 17, Church Lane, Utility Relocation, Tappahannock, VA for VDOT - Project Engineer** for relocation of 1100-linear feet of 8-inch sanitary force main and 1,600 linear feet of 12-inch water main in connection with improvement of four-lane urban bridge and approaches at Hoskins Creek.

**I-295/Meadowville Interchange Design-build, Chesterfield County, VA for VDOT - Utility Engineer** for the identification of utility conflicts and coordination of electric, telephone and water utility relocations within the project located in Chesterfield, Virginia that includes the first phase of construction of a new cloverleaf interchange on I-295 at VA 618 and local road improvements to improve access to the Meadowville Technology Park.

**Hospital Road, City of Petersburg, VA - Project Engineer** for the design of a 0.9 mile 4 lane access road to a new hospital on new alignment. Project consisted of an urban roadway with curb and gutters and sidewalks. Services provided included roadway design, hydraulics, SWM, utility relocations and coordination, traffic signal designs, landscaping for pocket park, streetscape, street lighting, right-of-way acquisitions, maintenance of traffic plans, retaining walls and pavement marking/signing plans.

**Route 610, Stafford County VA - Project Manager** for design of 0.8 mile of urban roadway widening project through congested commercial area. Improvements included widening the roadway from four lanes to six lanes with concrete median, retaining walls, traffic signals, drainage, utility relocation coordination and 3,000 LF of 18" waterline.

**Basic Ordering Agreement, Frederick Road Bike Path for Montgomery County DOT, MD - Utility Engineer.** For this task assignment, Dave coordinated utility relocation design and monitoring utility relocation construction for a 2.5 mile asphalt bike path between Stringtown Road and Milestone Manor Lane.

**Britton Road and Bridge, Henrico, VA. Lead Roadway/Utility Engineer** responsible for construction plans for a new bridge and approach roadway reconnecting a local connector road over I-895. Design services provided for the 2-lane rural road on existing alignment included roadway and bridge design, hydraulics, storm water management, erosion control, utility relocation coordination. This work was performed as part of the Route 895 PPTA project.



## Edward Drahos, PE

Principal

### Project Assignment

**Lead Geotechnical Engineer**

### Firm



### Experience

With firm **28** Total **34**

### Education

MS/1977/Geotechnical Engineering; Ohio State University

BS/1975/ Civil Engineering; Ohio State University

BS/1972/ Mathematics; Ohio State University

### Training/Certificates

– FOPP – Fundamentals of Professional Practice

### Registration

Professional Engineer: VA, #15605

Also registered in NC and OH

## PROFESSIONAL PROFILE

Mr. Drahos' is a **Virginia Registered Professional Engineer** with expertise in geotechnical engineering for transportation facilities including airport, bridge, highway, and rail projects; low and high-rise commercial buildings; hospitals; university buildings; correctional facilities; industrial plants; water and wastewater treatment plants and water storage tanks; power plants; communication towers; military facilities; drainage structures; retaining walls; waterfront structures; dewatering; underpinning; and excavation sheeting and shoring. He has served as lead geotechnical engineer on many transportation improvement projects in Virginia including projects in Prince William County. He is familiar with the area, VDOT, AASHTO and FHWA specifications, guidelines and procedures.

### Project Experience

**Mountain Road Improvements, Prince William County, VA - Quality Assurance/Quality Control Engineer** for this 1,800-ft long roadway improvement project. The project included re-grading and paving the existing crushed stone roadway according to VDOT's GS-4 standards and a Contech® Con/Span Bridge culvert with precast headwalls and wingwalls.

**Route 36 Design-Build Improvements, Hopewell, VA - Geotechnical Senior Reviewer** for the improvements to Route 36 where it intersects with Route 144 in Hopewell, Virginia. Project involved addition of several turning lanes, a new ramp, and widening of all intersecting roads to accommodate the changes. The project also included two stormwater management basins and several culverts.

**I-895 Richmond Airport Connector, Design-Build Toll Road Project, Henrico County, VA - Geotechnical Project Manager** for the preliminary geotechnical design of a four-lane, 1.5-mile connector from Route 895 to the Richmond International Airport. The project included three bridges over two roadways, a railroad, and nearly 4,000 lf of MSE walls between two of the bridges. In-situ pressuremeter, cone penetrometer, and dilatometer testing were performed to obtain parameters for geotechnical design.

**Fairfax County Parkway Extension, Design-Build Project, Fairfax County, VA - Geotechnical Senior Reviewer** for this \$117 million design-build project, which included a two-mile, four-lane extension of the Fairfax County Parkway. The project included six new bridges and one widened bridge, cut and fill slopes in soil and weathered rock, stormwater management basins, storm drains, pavements, MSE



walls, soil nail walls, sound walls, signal poles, and overhead sign structures. The bridges were supported on piles, drilled shafts, and footings in granite rock. Foundations were designed using AASHTO LRFD Bridge Design Specifications. Also provided review during construction of the dynamic testing of piles supporting bridge abutments and piers.

***I-81 Truck Climbing Lane, Design-Build Project, Rockbridge County, VA - Geotechnical Project Manager*** for widening of 7.5 miles of the northbound lanes of I-81. The project included embankment widening, cut slopes in soil and rock, three replacement bridges, stormwater management basins, storm drains, and pavements. The bridges were supported on piles and footings in limestone rock, and a geofoam embankment was used to reduce settlements at one bridge abutment over soft residual soil (epi-karst).

***Dominion Boulevard Improvements, Chesapeake, VA - Quality Assurance Reviewer*** for the geotechnical engineering design recommendations for a portion of the proposed improvements of a 3.5 mile section of Route 17. The improvements included the expansion from a two-lane road to a four to six-lane divided, limited access highway. A variety of foundation alternatives, including steel pipe piles, concrete cylinder piles, square concrete piles, and drilled shafts were considered. A variety of ground improvement techniques to permit completion of construction stages within the schedule constraints was evaluated.

***I-64/Route 895 Connector Road at Richmond International Airport, Richmond, VA - Geotechnical Engineer*** responsible for the geotechnical design recommendation for the improvements to a 1.4 mile long section of Airport Drive between Charles City Road and Williamsburg Road. Recommended using bridge lifts, geotextile separation fabric, and geogrid to reduce the required undercut depths and the cost of undercutting. Evaluated dynamic pile load test results and provided consultation relating to problems that arose during the pile driving

***Middle Ground Boulevard Extension, Design-Build Project, Newport News, VA: Geotechnical Project Manager*** for preparation of a geotechnical baseline report for a one-mile extension of the existing four-lane roadway. The project included one bridge over the CSX railroad, embankments on soft ground, stormwater management basins, and pavements. In-situ cone penetrometer and dilatometer testing were performed to obtain parameters for geotechnical design.

***I-95 Atlee-Elmont Interchange, Hanover County, VA - Project Consultant*** for the geotechnical design of 10 bridges and approach embankments. The project included bridges up to 700-ft long, MSE walls, and embankments up to 50-ft high in low-lying areas with difficult soil conditions.

## **II. PROJECT CHARACTERISTICS**

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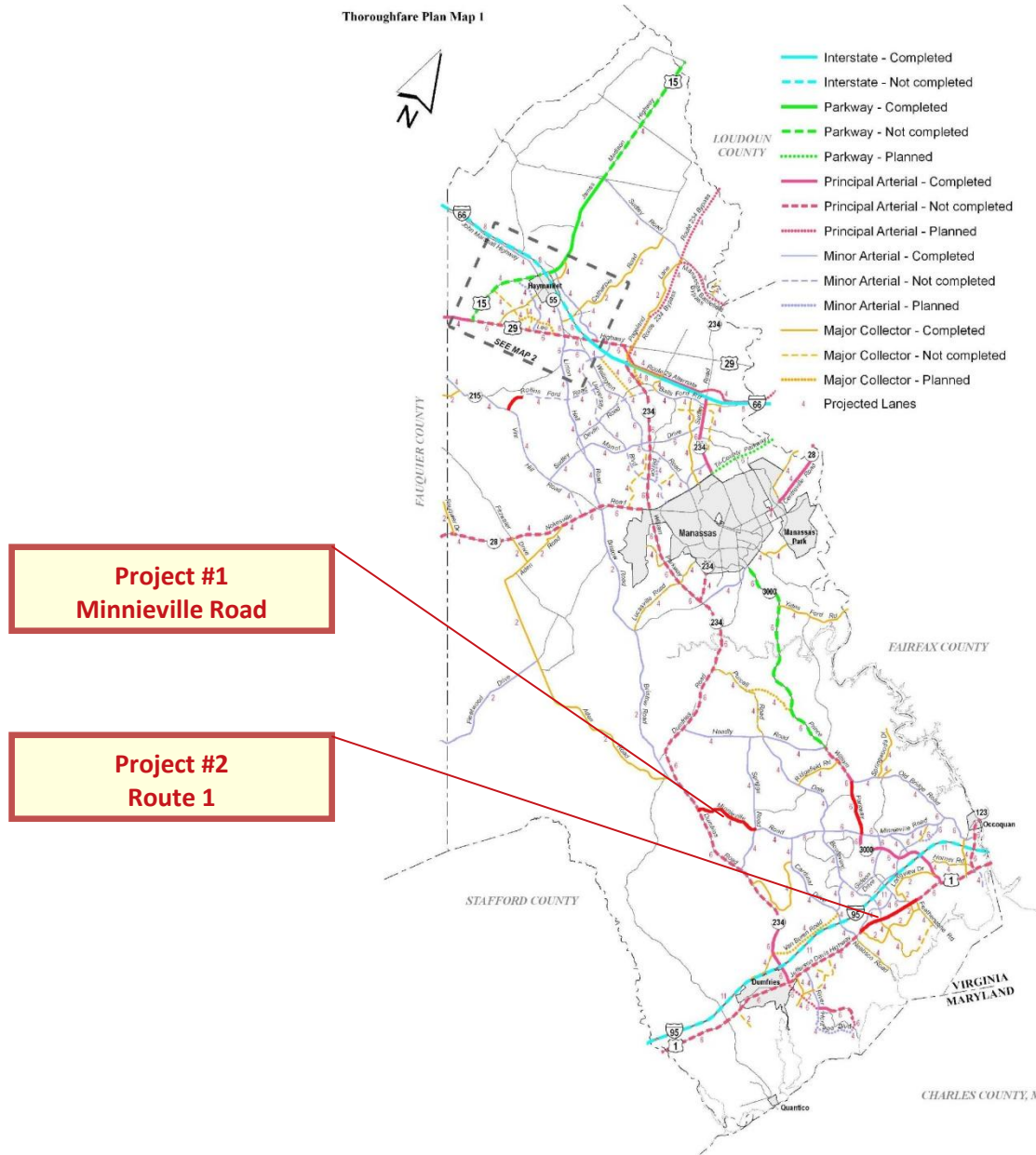
## II. PROJECT CHARACTERISTICS

2(a) Provide a description of the project, including the conceptual design. Describe the proposed project in sufficient detail so that type and intent of the project, the location, and the communities that may be affected are clearly identified.

### A. Project Description

The **Lane** Team proposes to undertake the design and construction of two projects. Those projects are Minnieville Road and Jefferson Davis Highway (Route 1). Figure 2-1 shows the location of each project within Prince William County. The following pages provide an in-depth description of each project and an analysis of the challenges and opportunities associated with those projects.

**Figure 2-1 – Projects Location Plan**



### 1) Minnieville Road

Per the Prince William County Comprehensive Plan, Minnieville Road provides a connection for traffic in Dale City to reach the northeast areas of the County, including the Lake Ridge and Occoquan areas surrounding Old Bridge Road. Additionally, Minnieville Road provides access to areas along Dumfries Road such as Marine Corps Base Quantico and the Prince William Forest Park. The Minnieville Road project entails the design and construction of the widening and realignment of the existing 2-lane Minnieville Road from the intersection with Spriggs Road to the intersection with Route 234 (Dumfries Road) for a distance of approximately 10,600-feet. This project will alleviate very dangerous conditions created by substandard sight distance issues, mostly due to a series of switch-back curves that traverse almost 100-feet of elevation change. Recent incidents, including a fatal head-on collision in June 2011, **leave no doubt that this project will benefit the community and Prince William County.** Upon completion, Minnieville Road will be a four-lane divided roadway with a raised median.

**Existing Conditions.** As discussed, the existing 2-lane rural road traverses through several switch-back curves and severe changes in elevation while passing through a few residential developments, including one currently being developed by Richmond American Homes. In addition to the handful of parcels that directly access Minnieville Road, there are seven residential streets that intersect the road within the project limits. Dedicated right turn lane and center-left turn lanes are provided at all major intersections and guardrail is provided in areas to protect vehicular traffic from roadside hazards. Currently, signalized intersections exist at the intersections of Spriggs Road and Dumfries Road.



The project limits exist within the upper limits of the Powells Creek Watershed which flows generally northwest to southeast and drains to Lake Montclair in the middle region of the watershed that ultimately discharges to the Potomac River. Lake Montclair functions as a large sediment sink for the upper half of the watershed and dredged every 5 years. The significance of this lake is that it has a direct hydraulic effect for upstream flood stages because it serves as the downstream tailwater for the upper watershed. Any erosion control improvements related to the proposed project will decrease the transport of sediment thus decreasing future costs associated with dredging the lake.

Minnieville Road extends across the entire watershed width and is essentially a link between the upper and middle sub-basins. Powells Creek crosses the existing 2-lane Minnieville Road through a crossdrain system that consists of 5 - 72" corrugated metal pipes. The drainage basin upstream (north) of Minnieville Road is slightly under 6 square miles and according to the Powells Creek Watershed Management Plan (June 2008), it is well documented that runoff flows regularly overtop the road for the majority of rainfall events above the 10 year frequency. The FEMA FIRM map was used to identify the 100 year floodplain elevation which proved to be approximately 1 foot higher than the existing roadway elevation at its lowest point across the Powells Creek and runs approximately 500 feet along Minnieville Road. To adequately address flooding concerns, this crossing was modeled using the Army Corps of Engineers HEC-RAS software and then calibrated using the FIS flood profiles and stage elevations for Powells Creek. Through this analysis, it can be confirmed that the current 5 - 72" cross drain configuration is insufficient to accommodate the runoff for the required VDOT 25-year storm event as well as provide regulated flood stage volumes for any improvements. As a result, a significant adjustment in the vertical profile is required in this area. Due to foresight and planning with

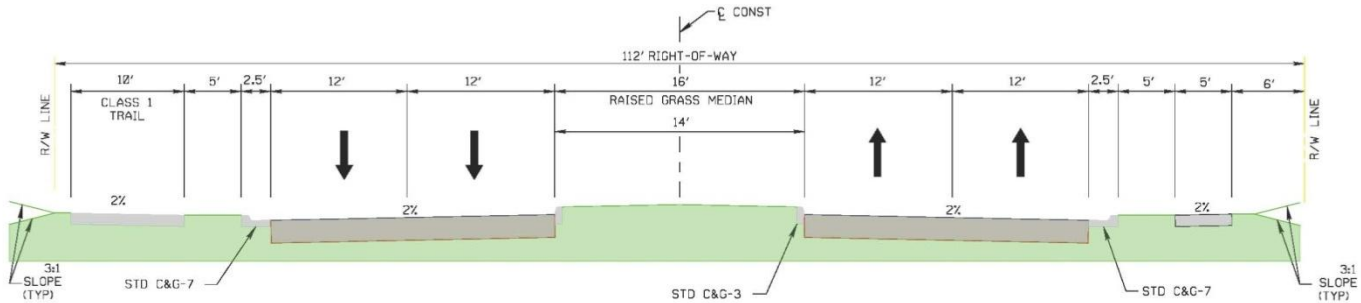


regards to the Winding Creek Development, stormwater runoff treatment requirements for the ultimate typical section between January Court and Moonbeam Drive are accounted for in the Subdivisions' BMP.

**Figure 2-2 – Minnieville Road Alignment Plan**



**Figure 2-3 – Minnieville Road Typical Section**



**(1.a) Minnieville Road – Design Criteria**

The proposed typical section will utilize VDOT GS-6 criteria for an urban minor arterial facility and will provide a four lane divided roadway with raised median and pedestrian facilities.

**Table 2-1 – Minnieville Road General Criteria**

Access Management Class	Design Speed	ROW Width	Minimum Lane Width	Minimum Median Width	Buffer	Minimum Clear Zone	Curb Type
Urban Minor Arterial	50 mph	112 feet	12 feet	16 feet	4 feet	10.5 feet	CG-7



**Table 2-2 – Minnieville Road Horizontal Control Criteria**

Minimum Cross Slope	Maximum Superelevation	Minimum C/L Radius	Minimum Sidewalk Width
2%	4%	929 feet	5 feet

**Table 2-3 – Minnieville Road Vertical Control Criteria**

Maximum Grade	Minimum Stopping Sight Distance	Maximum Slope
7% (per AASHTO)	425 feet	3:1 / 2:1 (Protected)

**(1.b) Minnieville Road – Special Design Considerations**

**Horizontal & Vertical Alignment.** The proposed alignment deviates from the existing roadway due to the rather large grade differential, substandard horizontal curvature for an appropriate design speed, and the proximity of residences with regards to the existing two-lane roadway. However, these deviations from the existing alignment are substantiated through the implementation of transportation improvements by recent housing developments along the corridor. Compared to the proposed alignment, similar improvements have been made to a significant portion of the existing Minnieville Road alignment, grade and right-of-way that support the required build out section. Substantial realignment is required to meet the current design criteria referenced above as well as balance the anticipated construction cost, environmental and community impacts, and right-of-way requirements to ensure that the conceptual alternatives presented in Section 3 provide the County with the “best value” solution.

**Access Management.** An essential component to a well-designed arterial roadway includes a concise access management plan to ensure that the facility functions as intended. A good access management plan minimizes the disruptions to through traffic by minimizing crash potential and overall crash counts, preserving the capacity of the facility, decreasing travel time and congestion. Additionally, these measures improve access to properties, improve air quality, and maintain economic prosperity. Since there will be a significant change to the transportation system along this corridor, a careful balancing of the interests of property owners as well as the traveling public will certainly be a top priority for the Lane Team. Signal warrants were investigated to determine proper intersection control.

**Table 2-4 – Minnieville Access Management Criteria**

Minimum Spacing Between Signalized Intersections & Crossovers (Full Access)	Minimum Spacing Between Unsignalized Intersections & Crossovers (Full Access)	Minimum Spacing Partial Crossovers (Restricted Access)
2,640 feet	1,320 feet	325 feet

**Pavement Design.** Preliminary calculations indicate that traffic projections and in-situ soil conditions will require a structural number of 4.2 to satisfy the anticipated pavement loads. Therefore, the Lane Team recommends the following pavement section for consideration in accordance with AASHTO and VDOT regulatory standards.

- ▶ Surface Course – 1.5” SM 9.5D
- ▶ Base Course – 6” BM-25.0
- ▶ Subbase – 8” 21-A Graded Aggregate Base



**Drainage Collection.** The storm water collection system for the proposed improvements is designed using VDOT criteria. Inlets are placed at every profile sag location with one additional inlet placed 50 feet longitudinally on each side upstream of the sag to provide “inlet protection” per Prince William County requirements. Additionally, Inlets are placed just before the zero cross slope for every superelevation transition then again at locations based on a combination of maximum spread conditions and maximum allowable pipe lengths as required per the VDOT Drainage Manual. The collection system is designed using the 10 year frequency with the 100 year frequency for outfall pipes. Additionally the double 48” crossdrain at the eastern segment of the corridor was analyzed and extended accordingly with the roadway widening. Underdrain is provided per Prince William County and VDOT requirements.

**Drainage BMP.** Ponds are placed near or close to sag locations and near areas that provided positive outfalls for potential overflow. The proposed retention ponds are sized for the 2 year and 10 year events for rate control and should probably be oversized for reasons stated below and to over attenuate flows to help remediate historically documented problems. The Powells Creek Watershed exhibits characteristics such as steep narrow slopes and little to no storage capacity that contributes to flash floods, erosion and downstream sediment transport as documented in the Powells Creek Watershed Management Plan. Additionally, ponds are designed to allow for the peak discharge resulting from the 100 year storm event. Compensatory treatment is provided within ponds to account for the non-treatment improvements centered on Powells Creek. The offsite topography in the vicinity of the creek does not offer any suitable location for a pond forcing runoff to be collected and directly discharged to the downstream side of Minnieville Road at both banks of the creek floodplain. Remnant County right-of-way not utilized for the roadway construction will also be utilized to the greatest extent possible to reduce overall acquisition for BMP facilities.

**Floodplain Compensation.** It will be necessary to incorporate volumetric floodplain compensation for this project. The proposed profile had to be raised several feet at the Powell’s Creek crossing for several reasons: to maintain hydraulic capacity, to tie down existing driveways, and to reduce the amount of cut required to place the road within steep segments of the profile near Yolanda Lane. As a result, a significant amount of fill will be placed within the FEMA 100 year flood plain elevation. To offset any fill below the 100 year flood elevation, the same volume of cut must be removed within the same sub-basin, typically in the vicinity of the flood impact. This “cup for cup” volumetric compensation is usually accomplished near the bridge abutment or within the floodplain upstream of the crossing.

**Powells Creek Crossing.** As part of this project, the existing crossing of Powells Creek must be improved to accommodate the new roadway section. As a result of the relatively large quantity of earthwork and conveyance upgrades required at this location, careful analysis of the optimal horizontal and vertical location of the roadway has been undertaken. As part of the analysis of this crossing, careful consideration has been given to the environmental impacts the proposed crossing would have on both the creek and surrounding environment.

As part of the environmental analysis, The Lane Team has reviewed the “Powells Creek Watershed Management Plan” dated June 2008, prepared by the Michael Baker Corporation. An excerpt from that report reads:

*“Minnieville Road, on the other hand, shows indications of recurring overtopping from higher flows in Powells Creek. These indications have been confirmed by County staff. Significant deposits of sediment exist at the outlet of the culverts, which impact the capacity of the culverts. The Hydraulic Study showed that the capacity of these culverts would be less than the two year discharge under ultimate development conditions without factoring in blockages due to sediment deposits. Other factors that affect the hydraulic conditions at Minnieville Road include the relatively low and long vertical sag at the location of the crossing of Powells Creek and the relatively wide floodplain above Minnieville Road. These factors contribute to the overtopping flows impacting a substantial length of Minnieville Road, and plunging into Powells Creek on the downstream side (as evidenced by erosion eating at the banks along the edge of pavement). Left unchecked, it would be expected that Powells Creek will continue to erode toward the roadway until the shoulder no longer exists.”*



Based on our review of Federal Emergency Management Agency data, The **Lane** Team has determined that this portion of Powells Creek is located within a FEMA regulated flood plain. In addition, The **Lane** Team has reviewed VDOT policy regarding construction of improvements within existing floodplains. Given this information, The **Lane** Team electronically modeled the crossing and has determined that a significant upgrade to the existing stream conveyance under Minnieville Road will be required.

The existing crossing was modeled using the Army Corps of Engineers HEC-RAS software to define what type of crossing would be necessary to prevent overtopping. Preliminary topographic information was used to create cross sections of the stream channel and flow values were obtained from the FEMA Flood Insurance Study (FIS) for Prince William County. The model was then calibrated using the FIS flood profiles and stage elevations for Powells Creek.

After the existing conditions model was calibrated, the road was raised indefinitely to see how high the headwater would have to climb using the 5 – 72” cross drain configuration. As a result the profile would have to be raised approximately 50 feet to prevent overtopping, which wasn’t practical. Furthermore, according to VDOT culvert criteria, culverted crossings are designed for the 25 year event which would be impractical to construct because of the volume of upstream flow and channel geometry.

Given the geometric and hydraulic constraints for this crossing it was most feasible to use a bridge crossing. The proposed bridge was designed and modeled using a low member elevation above the existing 100 year flood elevation in order to maintain “no rise” conditions from pre to post development. The proposed structure also accounted for 1 foot of drift clearance. Based on the preceding criteria, the model indicated a minimum hydraulic opening of about 90 feet wide plus or minus 5 feet with an increased proposed roadway profile grade elevation. Combined with the horizontal and vertical alignment restrictions, it was required to provide a minimum 115-foot bridge for the crossing. Our solution to this issue is detailed in Section 3 and is ***designed to completely alleviate flooding issues for the 100-year storm event, which will be required to satisfy regulatory requirements.***

***Maintenance of Traffic.*** As a result of the significant horizontal and vertical alignment modifications along portions of this project, careful consideration must be given to the maintenance of access points for the residents within the construction limits as well as maintain current roadway capacity during construction. Our preliminary construction sequencing has incorporated techniques that allow for temporary pavement to be utilized to switch traffic between two construction phases. This will ultimately allow for a minimum of 2-lanes of traffic to be operational at all times. We have carefully developed the horizontal & vertical geometry in the vicinity of Powells creek to be in compliance with this phasing operation and can adequately accommodate the equipment necessary to construct the bridge structure depicted in Section 3. Due to the proximity of residences, night work and lane closures will not be implemented.

### **(1.c) Minnieville Road – Roadway Street Lighting**

In evaluating the impact to the surrounding community, The **Lane** Team proposes no roadway street lighting improvements as part of this proposal.

### **(1.d) Minnieville Road – Roadway Landscaping.**

Other than what will be required to satisfy regulatory requirements with regards to BMP’s, The **Lane** Team proposes no additional landscaping improvements as part of this proposal.



**(1.e) Minnieville Road – Affected Utilities**

As with any major reconstruction project, impacts to existing utilities are anticipated. The Lane Team has conducted a preliminary investigation of the project corridor and can confirm the following facilities are present in the area; Columbia Gas of Virginia, Comcast, Northern Virginia Electric Cooperative, Prince William County Service Authority, QWEST, Virginia American Water Company, Verizon, and Washington Gas. The Lane Team will work with each Utility Owner during the Final design and construction phases of the project to ensure that necessary easements and coordination efforts are provided to minimize disruption of service to residents to the greatest extent possible.

**(1.f) Minnieville Road – Affected Communities**

The Minnieville Road project has significant effects on the communities in the vicinity of the project. The communities of Winding Creek Estates, the new development being constructed by Richmond-American Homes, and Minnieville Manor are most affected. While right-of-way for the ultimate section of Minnieville Road was granted as part of the development of these communities, construction activities will occur in close proximity to many residences. The Lane Team has worked under these circumstances in the past and is ready to provide a design to Prince William County that minimizes disturbance to its citizens. For example, Lane encountered similar construction coordination issues during construction of the I-495 HOT Lanes project. These concerns were effectively mitigated through strong outreach and close communications with each individual homeowner. Roadway grade changes of as much as seven feet were implemented without a single complaint.

**(1.g) Minnieville Road – Right-of-Way Acquisition**

Variable width right-of-way has been dedicated for the full section of Minnieville Road along the frontage of Winding Creek Estates and Minnieville Manor. The Lane Team anticipates utilizing this dedicated right-of-way to the extent practical. Along the remaining portions of the road, substantial right-of-way acquisition is anticipated. Parcels impacted by this right-of-way acquisition will ultimately be determined by the final design of the road. However, based on our preliminary design depicted in Section 3, right-of-way will be acquired from the parcels listed in Table 2-5.

**Table 2-5 – Minnieville Road Right-of-Way Acquisition Summary**

GPIN	Address	Owner	Property Size	Structure Impacts?
7991-43-5396	14916 Minnieville Road	Joyce Hitt & Bucky Brill	0.7535 acres	Yes
7991-54-1058	14925 Minnieville Road	Estalla Mallard & Joanna Wood	65.26 acres	No
7991-63-4008	15107 Dumfries Road	Estalla Mallard & Joanna Wood	53.13 acres	No
7991-64-5931	14921 Yolanda Lane	John & Kimberly Hicks	3.0194 acres	No
7991-64-8953	14920 Yolanda Lane	Kelvin & Lisa Christensen	1.0033 acres	Yes
7991-64-9967	14918 Yolanda Lane	Thomas & Chynthia Beacom	1.0011 acres	No
7991-74-0877	14916 Yolanda Lane	George & Barbara Iverson	1.2809 acres	No
7991-74-2284	14914 Yolanda Lane	Mark & Jacqueline Powell	1.3469 acres	No
7991-75-5808	14893 Minnieville Road	Kianoush Monfared	2.5688 acres	No
7991-85-1702	14899 Minnieville Road	Didlake Foundation, Inc.	5.25 acres	No
8091-43-3032	14806 Minnieville Road	Barnes Meadows, LLC	39.63 acres	No
8091-35-3969	14712 Minnieville Road	ECS Ferlazzo, LC	39.22 acres	No

## 2) Jefferson Davis Highway (Route 1)

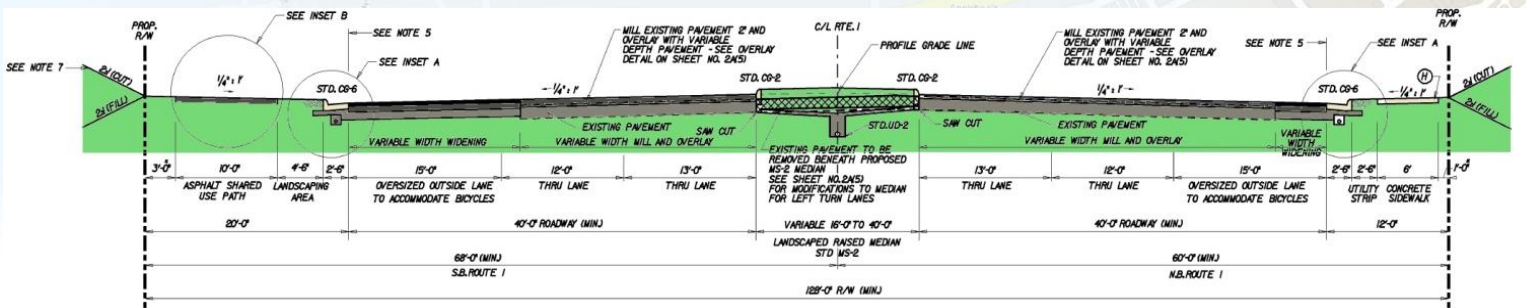
The Route 1 project entails the widening of Route 1 (Jefferson Davis Highway) from its intersection with Neabsco Mills Road to its intersection with Featherstone Road. The widening will expand the existing 4-lane undivided highway to a 6-lane divided highway with a raised median. The project is approximately 10,800 feet in length. Figure 2-6 shows the proposed limits of the Route 1 widening while Figure 2-7 shows the proposed typical section of the project.

**Figure 2-6 – Route 1 Alignment Plan**





**Figure 2-7 – Route 1 Typical Section**



**(2.a) Route 1 – Design Criteria**

Per the Prince William County Comprehensive Plan, Route 1 (Jefferson Davis Highway) functions as a multi-modal principal arterial carrying both intra and inter-county traffic. Per the Potomac Communities Plan prepared by Prince William County and dated March 18, 2008, this portion of Route 1 is proposed as a six lane divided highway requiring 140' of right-of-way. The Lane Team understands that this project is currently being designed under contract with the Virginia Department of Transportation and the final right-of-way width is 128 feet. Figure 2-7 of this proposal reflects the typical section being utilized for the design.

**(2.b) Route 1 – Special Design Considerations**

**Maintenance of Traffic** – While The Lane Team understands that the majority of the design work for this project is already complete, our construction team will closely analyze any proposed maintenance of traffic plans previously prepared for this project; perform our own traffic management plan and modify / develop detailed plans to match our construction operations and schedule.

**Access Maintenance during Construction** – Our design and construction team will review the sequence of construction plans to ensure that access to the many businesses within this corridor is maintained throughout construction.

**(2.c) Route 1 – Affected Communities and Businesses**

Given the nature of Route 1, many communities will be affected by the construction activities associated with the improvements. The largest anticipated negative effect on these communities is the potential for added traffic congestion and subsequent delays during construction. Furthermore, during the design and construction of this project, The Lane Team will work diligently to communicate with the owners/managers of local businesses to minimize, if not eliminate, impacts associated with this project. Over the long term, residents of affected communities will enjoy the use of a major roadway in Prince William County that has the added capacity needed to reduce overall traveling delays.

**(2.d) Route 1 – Right-of-Way Acquisition**

Based on the plans being prepared for the Virginia Department of Transportation, all properties on which right-of-way or easement acquisition is necessary have been identified. The Lane Team will work closely with Prince William County to review these properties to identify opportunities to reduce or eliminate right-of-way takings.



## **B. Work to be Performed by the County**

*2(b) Identify and fully describe any work to be performed by the County or any other public entity.*

### **General Activities**

The **Lane** Team will work closely with Prince William County to expeditiously and efficiently complete the road improvements being contemplated as part of this project. In addition, we will coordinate with both the VDOT Northern Virginia District Office and Manassas Residency to expedite the acquisition of required plan reviews and approvals.

As part of this project The **Lane** Team would anticipate Prince William County assistance with regard to the following general activities:

- ▶ Expediting County review of plans and specifications
- ▶ Providing input into the public participation process
- ▶ Enabling the acquisition of right-of-way by authorizing the certificate of take process as necessary
- ▶ Assisting with the expediting of VDOT reviews
- ▶ Assisting in the acquisition of VDOT plans as necessary to more efficiently complete project designs.

### **Specific Project Related Activities**

**Minnieville Road** – The **Lane** Team would anticipate receiving input from Prince William County regarding final alignment selection and design.

**Route 1** - The **Lane** Team understands that plans for the Route 1 improvements are currently in the design phase under a professional services contract with VDOT. The **Lane** Team anticipates that Prince William County personnel would coordinate the transfer of plans and calculations for further development.

## **C. Required Permits & Approvals**

*2(c) Include a list of all federal, state and local permits and approvals required for the project and a schedule for obtaining such permits and approvals.*

The experience both **Lane** and **G&O** have gained as a result of our numerous projects in Prince William County, will prove a strong asset in the acquisition of required permits and approvals for this project.

The **Lane** Team understands that the acquisition of necessary permits can often be a critical path item in the project schedule. As a result, The **Lane** Team focuses early in the project development on required permits and devises means by which risks associated with the permit acquisition process can be mitigated.

Table 2-7 provides an overview of the anticipated permits and approvals that would be required as part of these projects.



**Table 2-7 – Permits & Approvals**

Agency	Permit/Approval	Activity
<b>Federal Permits &amp; Approvals</b>		
U.S. Army Corps of Engineers (USACE)	Section 404, Clean Water Act – Individual and/or State Program General Permit	Project impacts to streams or wetlands require submittal of a Joint Permit Application. Mitigation required for permanent stream or wetland impacts
U.S. Fish and Wildlife Service (USFWS)	Endangered Species Act and Fish and Wildlife Coordination Act	Review of threatened and endangered species and significant habitats within the project area as part of the Joint Permit Application process.
Federal Emergency Management Agency (FEMA)	Letter of Map Revision and/or Conditional Letter of Map Revision	Placement of fill within the designated 100-year floodplain. G&O will perform the necessary floodplain technical analysis to request a Conditional Letter of Map Revision and/or Letter of Map Revision from FEMA if
<b>Commonwealth of Virginia Permits &amp; Approvals</b>		
Virginia Department of Environmental Quality (VDEQ)	Virginia Water Protection Permit (VWP)	Project impacts to streams or wetlands require submittal of a Joint Permit Application. Mitigation required for permanent stream or wetland impacts
Virginia Dept of Conservation and Recreation (VDNR)	State-listed Threatened or Endangered Plant and Animal Species	Review of state-listed threatened and endangered species and significant habitats within the project area as part of the Joint Permit Application
	Virginia Storm Water Management Program (VSMP) General Permit	Authorizes discharge of stormwater during construction
Virginia Department of Game & Inland Fisheries (VDGIF)	Threatened and Endangered Species (fish and wildlife)	Review of threatened and endangered species within the project area as part of the Joint Permit Application Process
Virginia Dept of Historic Resources (VDHR) and the State Historic Preservation Office (SHPO)	Cultural Resource Clearance	Determination that the project will not affect historic and/or archaeological resources.
Virginia Department of Transportation (VDOT)	CE-7 permit	Authorizes construction activities within existing VDOT right-of-way
<b>Prince William County Permits &amp; Approvals</b>		
Development Services	Erosion and Sediment Control Plan Approval	Approval required for land disturbance greater than 2,500 square feet
	Grading & Infrastructure Permit	Required prior to initiating ground disturbing activities
	Floodplain Study Approval	Required for placement of fill within the designated 100-year floodplain.

## D. Anticipated Adverse Impacts

*2(d) Identify any anticipated adverse social, economic, environmental and transportation impacts of the project measured against the County's comprehensive land use plan and applicable ordinances and design standards. Specify the strategies or actions to mitigate known impacts of the project.*

For every project undertaken by **Lane**, strong consideration is given to both the positive and adverse impacts that may result. The **Lane** Team has considered the impacts associated with each of the two road improvement projects as part of this proposal and is confident that these impacts can be mitigated if not completely eliminated. A discussion of the potential adverse social, economic, environmental and transportation impacts that might result from each of the two subject roadway improvements as well as potential mitigation and/or elimination techniques is given below.



In addition, Table 2.8 provides an overview of the relative severity of adverse impacts anticipated with each project.

### 1) Adverse Social Impacts

If the two road improvements contemplated by this proposal, no significant adverse social impacts are anticipated.

### 2) Adverse Economic Impacts

No significant economic impacts are anticipated as part of any of the road improvements associated with this project. However, as with any major construction project, clean work areas and well maintained business access throughout the construction process will lessen the severity of any significant economic impacts.

### 3) Adverse Environmental Impacts

Almost every construction project carries with it the potential to adversely impact the environment in which it is located. For each of the two contemplated road improvement projects, the risk of adverse environmental impacts is present. This is most notably so for the Minnieville Road project.

The elevated risk for environmental impacts associated with the Minnieville Road project is due in large part to the fact that the project involves the crossing of a significant waterway. The Minnieville Road project will include a major reconstruction of the crossing over Powell' Creek; Our design will result in a bridge crossing that meets the design accommodations for all environmental agencies and protects the citizens and their property.

The Lane Team is prepared to employ specific design and construction techniques to minimize the environmental impacts to this important waterway in Prince William County. Furthermore, G&O's environmental group consists of seasoned professionals each with a unique skill set tailored to handle the various discipline specific tasks that may arise throughout the environmental aspects of these two projects. We are confident that our Team has the ability to perform any environmental task that will be encountered on these projects and the experience necessary to successfully obtain the necessary required permits or clearances without delay.

### 4) Adverse Transportation Impacts

Of the two road improvement projects contemplated as part of this proposal, The Lane Team has identified Route 1 as having the highest potential for adverse transportation impacts during construction due to the current traffic demand. Construction activities can alter roadway capacity and therefore cause travel delays and unexpected congestion. To mitigate, if not eliminate these potential impacts, The Lane Team will concentrate significant time and effort into the optimization of a traffic management plan for this project. Working closely together, our design and construction teams will formulate a sequence of construction that minimizes delays within the limits of our project and ensures that commuters get to and from work safely and that both they and our construction personnel remain safe at all times. All of this will be accommodated without limiting access to the local businesses.



Table 2-8 below compares the relative levels of impacts between the two project areas as previously described.

**Table 2-8 – Relative Levels of Adverse Project Impacts**

Project	Social Impacts	Economic Impacts	Environmental Impacts	Transportation Impacts
Minnieville Road	○	○	●	○
Route 1	○	●	○	●

**Legend:**  
 ○ No Significant Impacts  
 ● Minimal Adverse Impacts  
 ● Moderate Adverse Impacts  
 ● Severe Adverse Impacts

## E. Anticipated Positive Impacts

*2(e) Identify the projected positive social, economic, environmental and transportation impacts of the project measured against the County’s comprehensive land use plan and applicable ordinances and design standards.*

As mentioned earlier, **Lane** closely considers both the positive and adverse impacts that may result from every project we undertake. The **Lane** Team has considered the positive impacts associated with each of the two road improvement projects as part of this proposal. A discussion of the potential positive social, economic, environmental and transportation impacts that might result from each of the two subject roadway improvements is given below.

*“A well—functioning transportation system in Prince William County is essential to ensure the efficient movement of people and goods, maintain the quality of life, and provide for economic growth.”*  
 - Prince William County Comprehensive Plan

### I. Positive Social Impacts

As stated in the Prince William County Comprehensive Plan, “A well-functioning transportation system in Prince William County is essential to ensure the efficient movement of people and goods, maintain the quality of life, and provide for economic growth.”

Each of these two projects support various Transportation Action Strategies laid out in the Prince William County Comprehensive Plan. Specifically, these projects support the following strategies:

T3:	Provide measures to minimize potential safety concerns created by conflicting modes of travel
T5:	Strive to reach targeted level of service goals set for all transportation modes and achieve consistent travel times to destinations for mode users
T1:	Support policies that increase safety for all transportation modes
T7:	Provide a variety of trip mode options aimed at reducing the potential travel time required to make a trip.
T8:	Improve and maintain transportation mode accessibility for all citizens.
T9:	Ensure the capacity of the transportation network is sufficient to meet the demands placed upon it for both weekday and weekend conditions.



These strategies are supported by increasing connectivity and as a result the mobility of the citizens of Prince William County. This enhanced mobility allows commuters to spend more time with their families and opens up new possibilities for cultural and natural exploration.

In addition, the construction of new pedestrian facilities such as bicycle trails and sidewalks, support Prince William County’s Transportation Action strategies. These facilities encourage the use of alternative transportation in the form of bicycles and walking.

The end result is that by supporting the Prince William County Comprehensive Plan Transportation Action Strategies, these projects result in the realization of substantial positive social impacts.

## II. Positive Economic Impacts

As stated earlier, one of the intents of Prince William County’s Comprehensive Plan is to provide for the economic growth of the County. By increasing connectivity within the County, the road improvement projects contemplated as part of this proposal allow for more efficient intra- and inter-county trips.

Another positive economic impact is the attractiveness of an existing and stable infrastructure for large businesses contemplating relocating to the area. These road improvement projects can not only contribute to the attraction of businesses, they also attract individuals who may wish to live in Prince William County. An enhanced work force is another key concern of businesses contemplating relocation.

## III. Positive Environmental Impacts

It is important to note that in all cases the proposed road improvement projects include pedestrian improvements. These improvements encourage the citizens of Prince William County to utilize walking and bicycling for short trips in lieu of vehicular travel. With the employment of carefully considered avoidance and mitigation techniques in the design and construction of these projects, it is possible to attain a net positive impact to the environment.

## IV. Positive Transportation Impacts

Through the discussion of the previous positive impacts these projects will have on society, the economy and the environment, it becomes evident that the greatest positive impacts are to the transportation system itself.

Each of these projects were approved as part of the 2006 Prince William County Road Bond Referendum and are included in the Prince William County Comprehensive Plan.

The improvements to Route 1 and Minnieville Road will be especially effective at easing the travel time of thousands of commuters each day.

**Table 2-9 – Relative Levels of Positive Project Impacts**

Project	Social Impacts	Economic Impacts	Environmental Impacts	Transportation Impacts
Minnieville Road	●	●	○	●
Route 1	●	●	○	●

**Legend:** ○ No Significant Impacts      ● Small Positive Impacts  
 ● Moderate Positive Impacts      ● Strong Positive Impacts



## F. Proposed Schedule

*2(f) Identify the proposed schedule for the work on the project, including sufficient time for the County's review and the estimated time for completion.*

We have included specific schedules for Minnieville Road and Route 1 in Section 3 – Project Financing of this proposal.

We are able to develop these aggressive schedules as a result of our PPTA experience, Prince William County experience and overall roadway design and construction experience.

As project scopes are further refined, we will refine our schedules accordingly.

## G. Allocation of Risk & Liability

*2(g) Propose allocation of risk and liability, and assurances for timely completion of the project.*

**Lane** will bear liability for the design and construction aspects of Minnieville Road. **Lane** will bear full liability for the construction of Route 1 and a portion of the design based on the level of completion at the time of transfer from VDOT.

This issue is addressed further in Section 3.

## H. Ownership, Legal Liability, Law Enforcement & Operation Assumptions

*2(h) State assumptions related to ownership, legal liability, law enforcement and operation of the project and the existence of any restrictions on the County's use of the project.*

### I. Ownership

For Minnieville Road and Route 1, ownership of the roadways will remain with the Virginia Department of Transportation. Design of road improvements will be ultimately approved by VDOT and construction will be performed under VDOT permit. Completed improvements will be inspected and accepted by VDOT for State maintenance.

### II. Legal Liability

**Lane** will assume the legal liability associated with this project. The **Lane** Team anticipates that Prince William County and VDOT will concurrently accept the project once it is delivered. At the time of acceptance, However, at time of acceptance, our legal liability will cease.

### III. Law Enforcement

The **Lane** Team anticipates standard patrols by the Virginia State Police and Prince William County Police during construction.

### IV. Operation of the Project



Construction warranties will be provided similar to that of other Prince William County projects. The **Lane** Team anticipates that VDOT will be responsible for the operation and maintenance of each project once the project has been conveyed by Prince William County.

## **V. Restriction of County Use**

The **Lane** Team does not anticipate any restrictions of Prince William County use during the duration of this project.

## **I. Phased Openings**

*2(i) Provide information relative to phased openings of the proposed project.*

It is The **Lane** Team's opinion that phased openings of either of the two proposed roadway improvement projects will not substantially increase the value to Prince William County or the travelling public. The **Lane** Team does, however, remain open to discussions regarding phased openings should the County feel there may be a benefit.



### **III. PROJECT FINANCING**

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### III. PROJECT FINANCING (CONFIDENTIAL)

The information contained within this section is highly proprietary and confidential. Public release of project assumptions and risk data will put **Lane** at a competitive disadvantage, provide competitors an unfair advantage and compromise our ability to aggressively price this project.

#### A. Preliminary Estimate

*3(a) Provide a preliminary estimate and estimating methodology of the cost of the work by phase, segment, or both*

**Lane Construction Corporation** hereby offers **Prince William County** pricing on Minnieville Road from Route 234 to Spriggs Road, and Route 1 from Neabsco Mills Road to Featherstone Road. We recognize there are other projects in the County’s Transportation Plan including but not limited to the Prince William Parkway widening from Old Bridge Road to Minnieville Road and welcome the opportunity to address this and other projects the County may wish to include in this contract.

Conceptual design and construction costs for the Minnieville Road project have been developed based on quantity take-offs from a preliminary design developed by our Team and applying appropriate unit costs. Conceptual design and construction costs for the Route 1 project have been developed based on quantity take-offs from plans prepared as part of Virginia Department of Transportation (VDOT) project 6088N00 and applying appropriate unit costs.

Right-of-way, third-party utility relocation, permitting, and environmental costs for both the Minnieville Road and Route 1 projects have been developed based on current market prices. We propose that costs associated with third party utility relocation, right-of-way acquisition and environmental/permitting be compensated from an allowance pool to be established by **Prince William County** as part of this contract. This allowance arrangement is proposed to be treated similarly to the Sudley Manor Drive and Linton Hall Road contract in which Lane participated.

**Table 3-1 – Proposed Project Pricing**

Route 1		Minnieville Road	
Right-of-Way	\$ 3,600,000	Right-of-Way	\$ 1,600,000
Utilities	\$ 4,000,000	Utilities	\$ 4,000,000
Environmental	\$ 300,000	Environmental	\$ 350,000
Design & Construction	\$33,854,000	Design & Construction	\$23,098,000
<b>Route 1 Total</b>	<b>\$41,754,000</b>	<b>Minnieville Road Total</b>	<b>\$29,048,000</b>

Table 3-2 compares our proposed project pricing to the budgets established by **Prince William County** as part of its FY2012-2017 Capital Improvement Budget for the Minnieville Road and Route 1 projects. Please note that CIP Budget amounts are net of **Prince William County’s** project management and debt issuance costs.

**Table 3-2 – Proposed Project Pricing vs. Prince William County Budget**

Project	PWC CIP Budget	Proposed Lane Pricing	Difference
Route 1	\$38,853,544	\$41,754,000	\$ 2,900,456
Minnieville Road	\$16,672,470	\$29,048,000	\$12,375,530
<b>Total</b>	<b>\$55,526,014</b>	<b>\$70,802,000</b>	<b>\$15,275,986</b>



As reflected in Table 3-2, our proposed pricing currently exceeds Prince William County CIP amounts. Our team is committed to working with Prince William County to refine costs and scopes of work to be closer in alignment to the CIP amounts.

We understand that certain proffer agreements may exist between **Prince William County** and several local development companies to dedicate both construction right-of-way and funding for corridor improvements. We recognize that the County has already performed estimates of the proffer funding to be utilized for each project and that these estimates are reflected within the County's CIP. We will further investigate the proffering agreements and provide a credit where existing proffers provide additional funding for project elements included in this price to allow the County to use the funds on other critical projects.

Additionally, it is our hope that the County will provide us with the past funding sources from agencies other than the County prior to our finalizing a contract so the necessary schedule and costs can be properly allocated. Until that time, we will proceed with the understanding that the projects are totally funded using County funding.

## **B. Development, Financing & Operation Plan**

*3(b) Submit a plan for the development, financing and operation of the project showing the anticipated schedule on which funds will be required. Describe the anticipated costs of and proposed sources and uses for such funds, including any anticipated debt service costs. The operational plan should include appropriate staffing levels and associated costs based upon the County's adopted operational standards.*

These projects are being funded by a County-sponsored bond issue. As such, financing plans are not included in this conceptual proposal. Should the County invite **Lane** to submit a Detailed Proposal for this project, a schedule of required funds will be provided at that time.

## **C. Project Assumptions**

*3(c) Include a list and discussion of assumptions underlying all major elements of the plan*

The project assumptions made by **Lane** have a direct bearing on our risk allocation model and how we have calculated construction cost estimates and the schedule for this project.

### **1) General Assumptions**

The majority of our project assumptions involve a close coordination with the County in the true nature of a public-private partnership (PPP). These include the assignment of certain risk items to the entity best suited to handle that risk. As noted in Section 3(d) of this proposal, **Lane** specifically proposes shared risk with respect to right-of-way acquisition, permit acquisition and third-party utility relocation. A more detailed discussion of these risks and the ways in which they are shared can be found in Section 3(d).

### **2) Specific Assumptions Related to Route 1**

In the preparation of our proposal several specific assumptions about the proposed Route 1 project have been made. A discussion of these assumptions follows.



**Plan Documents** – Our team assumes that plans currently being prepared as part of VDOT project 6088N00 will be transferred to our team for completion at the time of contract award. We understand that at the time of transfer, these plans will be at or near 90% completion. Our team assumes that as part of our design effort, we will fully evaluate these plans to identify opportunities to reduce cost, increase value and improve constructability.

**Environmental Permitting** – Our team assumes that anticipated impacts resulting from the proposed road widening will result in the need for either a State Program General Permit (SPGP), or an individual permit from the U.S. Army Corps of Engineers (USACE). In addition, we assume that a Water Protection Permit (WPP) will be required from the Virginia Department of Environmental Quality (VADEQ). As part of our review of existing plan documents discussed above, we will investigate opportunities to reduce stream and wetland impacts to a level that would allow for issuance of a State Program General Permit. This would significantly reduce the schedule required for coordination and review times. Lane will discuss these opportunities with the County to determine their feasibility.

Permanent impacts to both streams and wetlands will require mitigation, while temporary, construction-related impacts will require restoration to preconstruction conditions. The USACE encourages the use of wetland mitigation banks for linear transportation projects, due to the small and disparate impacts that typically occur in these projects. Lane has already identified local mitigation banks to provide this service. Additionally, stream impacts can be mitigated onsite through natural channel design where streams are realigned.

## 2) Specific Assumptions Related to Minnieville Road

**Minnieville Road Design** – Based on information provided in Section 2, our team has prepared a preliminary plan and profile of Minnieville Road. Our proposed design and construction costs are based on that plan and profile. The plan and profile are included as an Appendix to this section.

**Powells Creek Crossing** – As discussed in detail in Section 2, our team has reviewed the existing Minnieville Road crossing over Powells Creek. Our team has concluded that based on the FEMA flood plain mapping and the “Powells Creek Watershed Management Plan” dated June 2008, prepared by the Michael Baker Corporation, a bridge will be required to convey the required storm events under Minnieville Road and eliminate upstream flooding impacts.

**Environmental Permitting** – Our team assumes that anticipated impacts resulting from the proposed road widening will result in the need for either a State Program General Permit (SPGP), or an individual permit from the U.S. Army Corps of Engineers (USACE). In addition we assume that a Water Protection Permit (WPP) will be required from the Virginia Department of Environmental Quality (VADEQ). We will prepare the final design in such a manner to minimize stream and wetland impacts and maximize the chances for issuance of a State Program General Permit. This would significantly reduce the schedule required for coordination and review times. Lane will discuss these opportunities with the County to determine their feasibility.

Permanent impacts to both streams and wetlands will require mitigation, while temporary, construction-related impacts will require restoration to preconstruction conditions. The USACE encourages the use of wetland mitigation banks for linear transportation projects, due to the small and disparate impacts that typically occur in these projects. Lane has already identified local mitigation banks to provide this service. Additionally, stream impacts can be mitigated onsite through natural channel design where streams are realigned.

**Threatened and Endangered Species** – Based on the identification of small whorled pogonias along the Route 234 alignment, our team believes that there is potential habitat for the small whorled pogonia (wooded areas) and surveys will likely be required in those areas. In addition to the time-sensitive threatened and



endangered species survey requirements, the identified presence of a threatened and endangered species would likely cause delays and constraints on construction. Further coordination with the Virginia Department of Conservation and Recreation (DCR) will provide direction on survey requirements and will identify other potential protected species occurrences within the project area.

## D. Anticipated Risk Factors

*3(d) Identify the proposed risk factors and methods for dealing with these factors. Describe methods and remedies associated with any financial default.*

The following risk factors contained in Exhibit 3-3 are considered confidential as they have a direct bearing on our risk management cost method. Further discussion of the risks we propose to be shared is discussed below.

**Table 3-3 – Proposed Risk Allocation & Sharing**

Specific Risk	Proposed Assignment		
	Lane	Shared	PWC
Quality	X		
Construction cost: materials, labor, equipment, quantities	X		
Construction schedule	X		
Differing site conditions	X		
Utility coordination		X	
Insurance: professional services, construction management	X		
Contractor Insurance	X		
Design	X		
Permitting		X	
Environmental monitoring\compliance during construction	X		
Construction safety	X		
Force majeure			X
Hazardous waste mitigation			X
Cultural and historic site discovery			X
Right-of-way		X	
Finance			X
Inflation	X		

**Utility Coordination** - Third-party utilities will have to be addressed in more depth in the next phase. We understand there are not only utilities controlled by the County in the affected areas, but also significant, privately controlled utilities that will be impacted. In the Detailed Proposal, we will refine our proposal to reflect the coordination with all utilities and indicate therein our assumptions used in our risk allocation.

**Permitting** - Permit acquisition will also require coordination on many fronts. While our team will prepare the necessary design and documentation for permit applications, we have no control of the process to review, approve, and issue the permits. As such, we see this as a shared risk with the County and the permitting authorities.

It is our team’s intention to accept the risk for the costs and times for developing the designs, applying for the permits, and constructing the project in accordance with the schedule. We make certain assumptions in our estimate and schedule for local weather and geologic conditions. If acts of God or force majeure situations develop, we expect to discuss and negotiate the necessary contractual amendments with the County.



**Right-of-Way** - Based on past PPTA projects and understanding of **Prince William County** procedures, our team concludes that the County is best suited to acquire the right-of-way real estate needed to construct the project through their eminent domain and condemnation processes. We understand the County has a policy to allow 120 days to accommodate the land acquisitions.

## **E. Local, State and/or Federal Resources**

*3(e) Identify any local, state or federal resources that the proposer contemplates requesting for the project along with an anticipated schedule of resource requirements. Describe the total commitment, if any, expected from governmental sources and the timing of any anticipated commitment, both one-time and on-going.*

Unless the County specifically requests that **Lane** provide interim finance (a bridge loan) for the projects, Lane assumes that each project will be funded as described in **Prince William County's** FY 2012-2017 Capital Improvements Budget. We assume that we will receive monthly payments from the County for our work completed, calculated as a percentage of completion relative to a mutually agreed schedule of values.

## **F. County General and/or Moral Obligations**

*3(f) Identify the need, if any, for the County to provide either its general obligation or moral obligation backing. The underlying assumptions should address this need and/or state that the credit would be via a "Service Agreement", for example. Any debt issuance should be expected to receive an investment grade rating from a nationally recognized statistical rating agency. If the natural rating is not investment grade, the County may require the use of credit enhancements.*

Other than the obligations **Prince William County** has assumed in conjunction with the issuance of general obligation bonds to be utilized in the funding of these projects, our team does not foresee the need for the County to provide either general or moral obligation backing.

## **G. Interest Rate Impacts**

*3(g) Outline what impact, if any, a drop in interest rates would have on the ultimate annual project cost. Indicate if there is a method to refinance for cost savings or does the firm only receive benefit of this potential?*

We will deliver the project within the schedule outlined in this section. If our team successfully contracts with the County, **Lane** will accept all risks of interest rate fluctuations short of force majeure provisions.

## **H. Early Termination Financial Impacts**

*3(h) Outline the financial penalties, if any, that would result should the County wish to terminate a project early or restructure the cash flows for some reason of its own choosing. The firm should be specific on this point.*

Should the County choose to terminate the project, **Lane** proposes a penalty determined as follows: the County would be liable for all project expenses incurred by **Lane** to the point of termination by the County and all claims by associated parties. If the project is terminated during design, the above still applies; however, in addition, work will cease immediately and the County will retain the rights to all plans at that point of completion on payment of agreed fee.

If the County desires to restructure the cash flow draw schedule for work completed, an interest penalty will be incurred on any outstanding, unpaid invoice amount calculated at the current prime interest rate plus 2, as published by the Wall Street Journal on a monthly basis. Interest penalties will be calculated monthly and added to the invoice amount.

## **I. Underwriting Fees**

*3(i) Provide a breakout of the fees to any underwriting firm(s) and the type of obligation the firm(s) are using with a financing component. Be specific as to tax-exempt, taxable, floating rate, fixed rate, etc.*

While our proposal does not anticipate any underwriting requirements as part of this contract, we do anticipate traditional surety provisions, insurance, and warranties of a project of this scope, scale, and timing.

### III. PROJECT FINANCING

---

# Appendix 1

Financial Statement

### III. PROJECT FINANCING

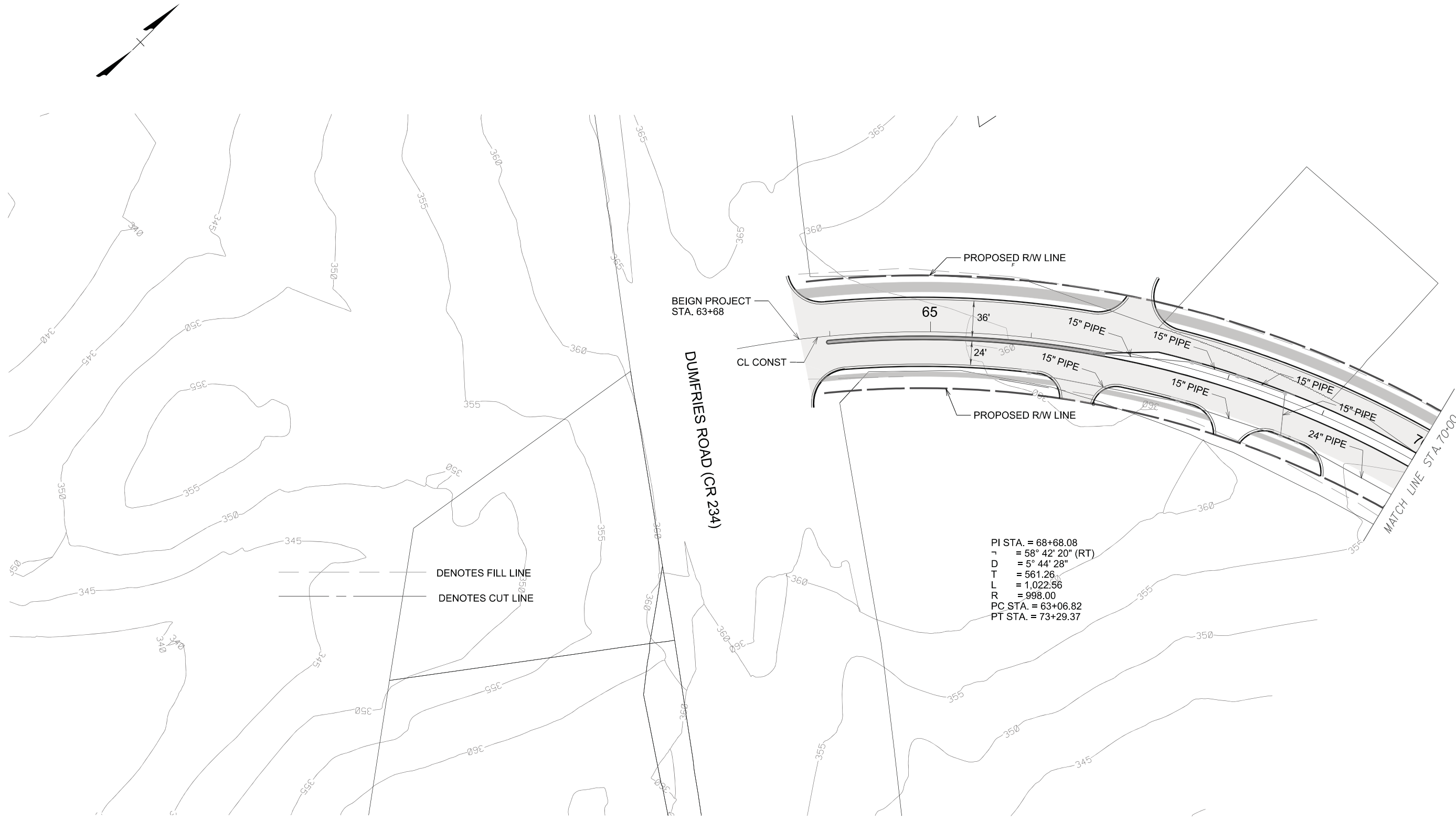
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# Appendix 2

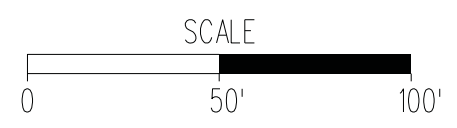
Minnieville Road Concept Plans







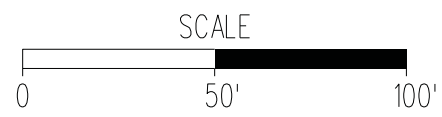
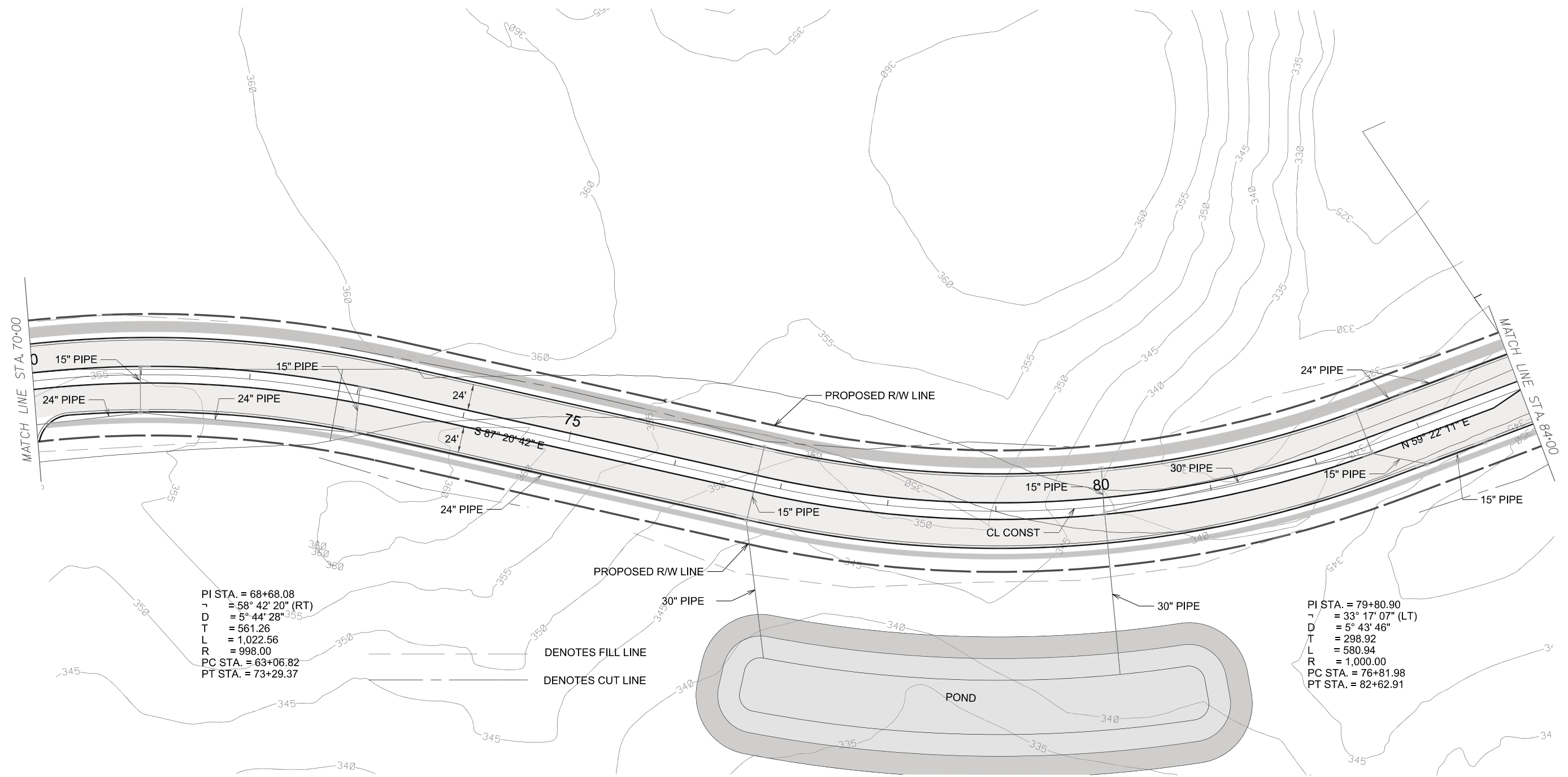
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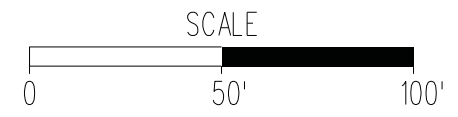
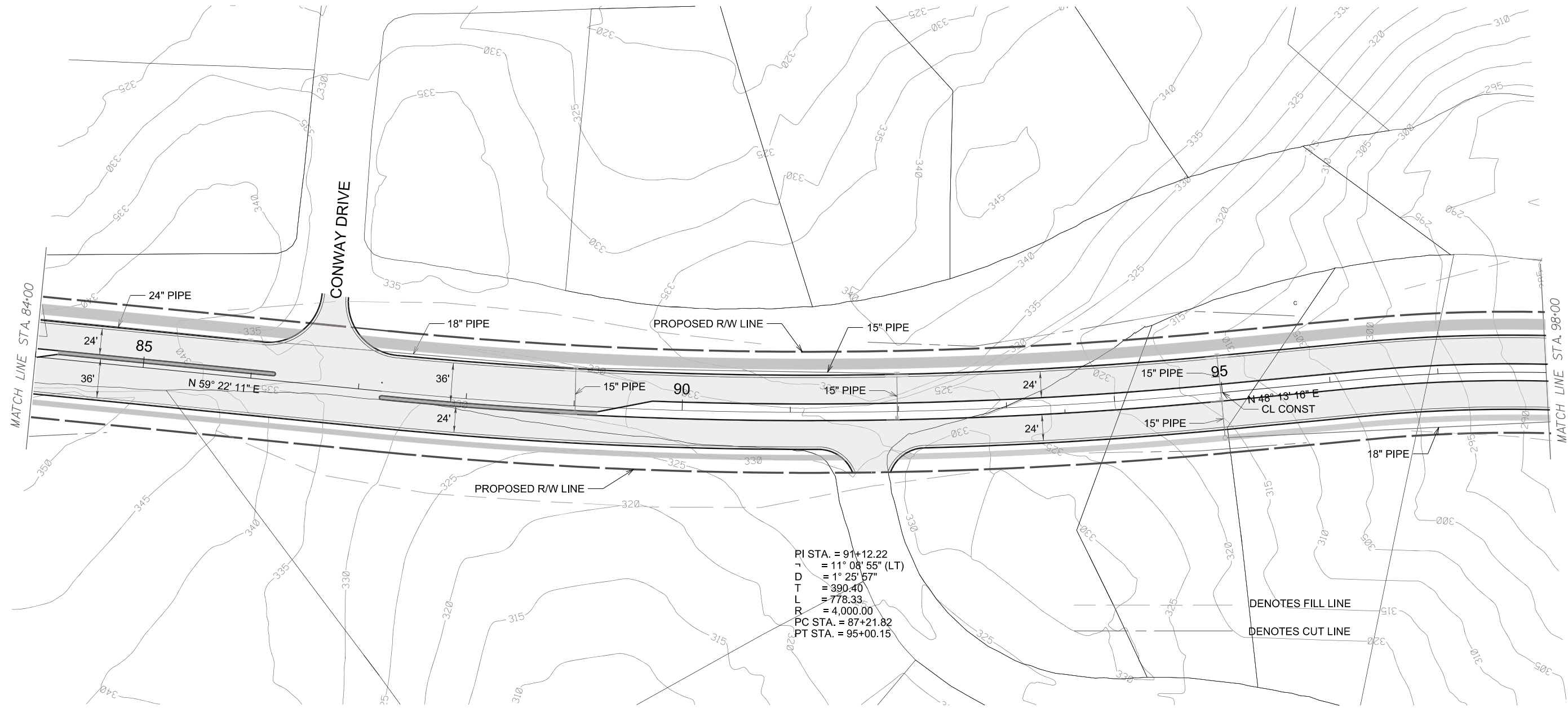
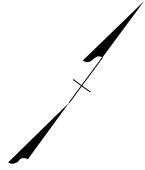


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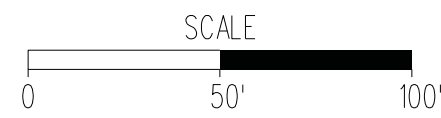
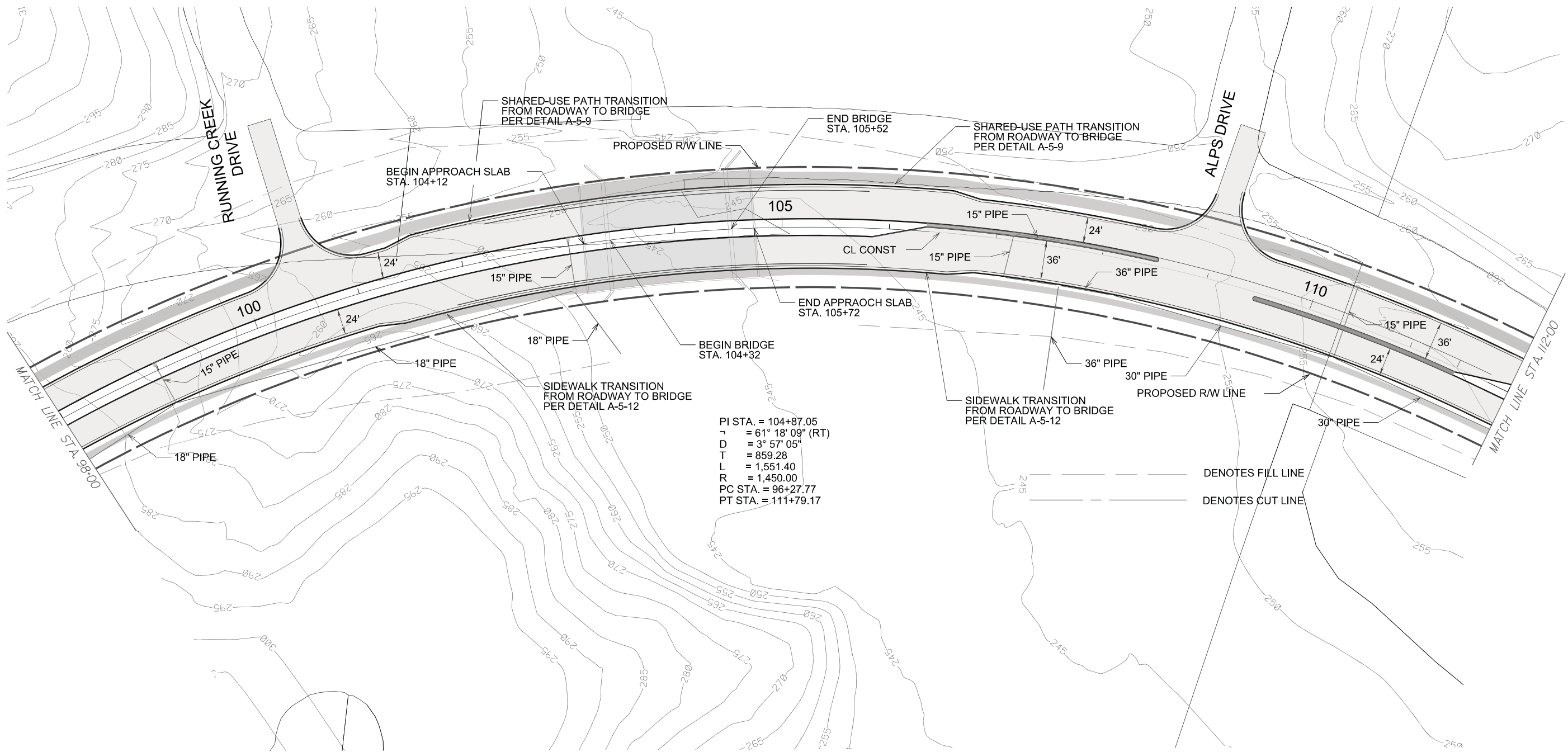
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CONSTRUCTION CORPORATION  
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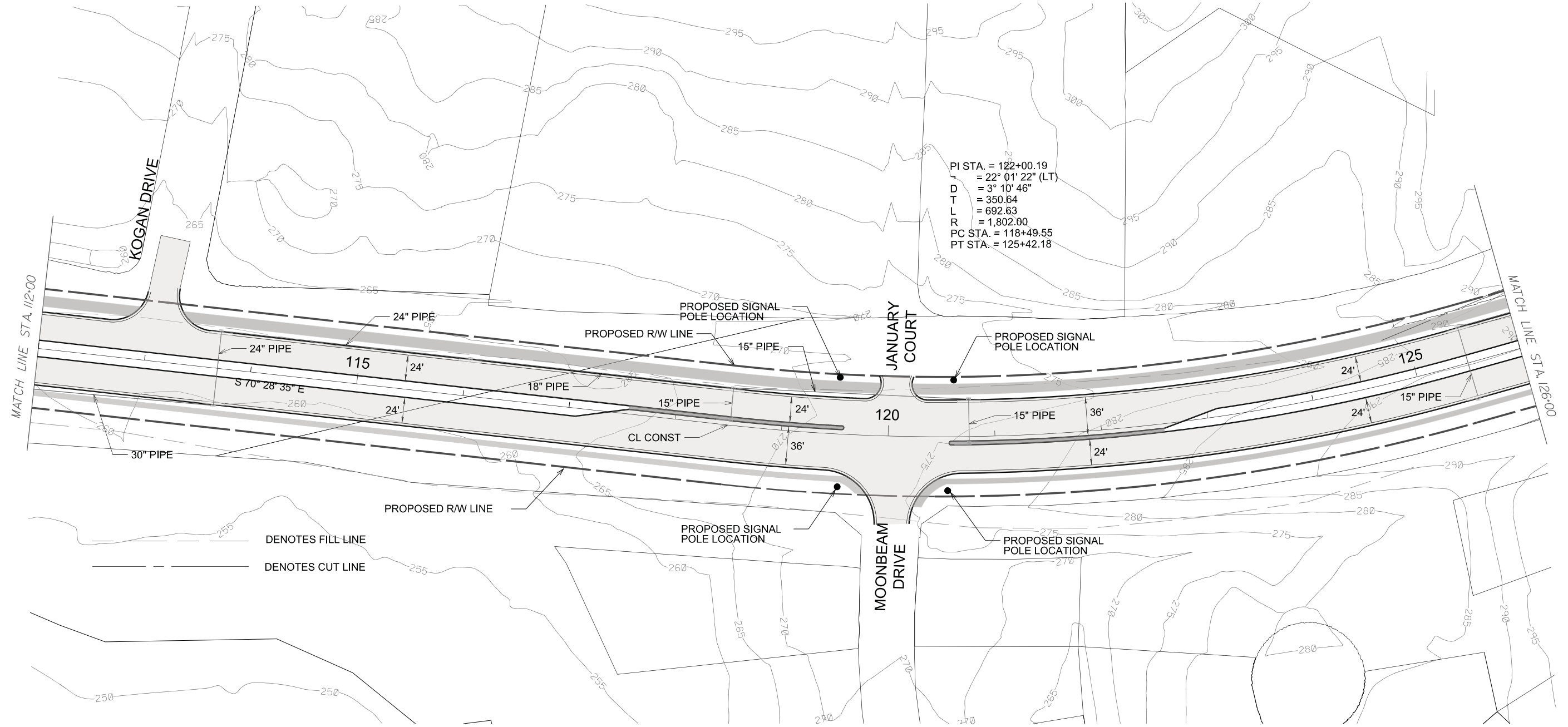
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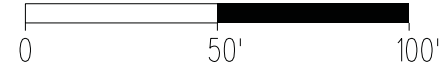
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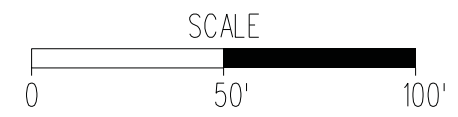
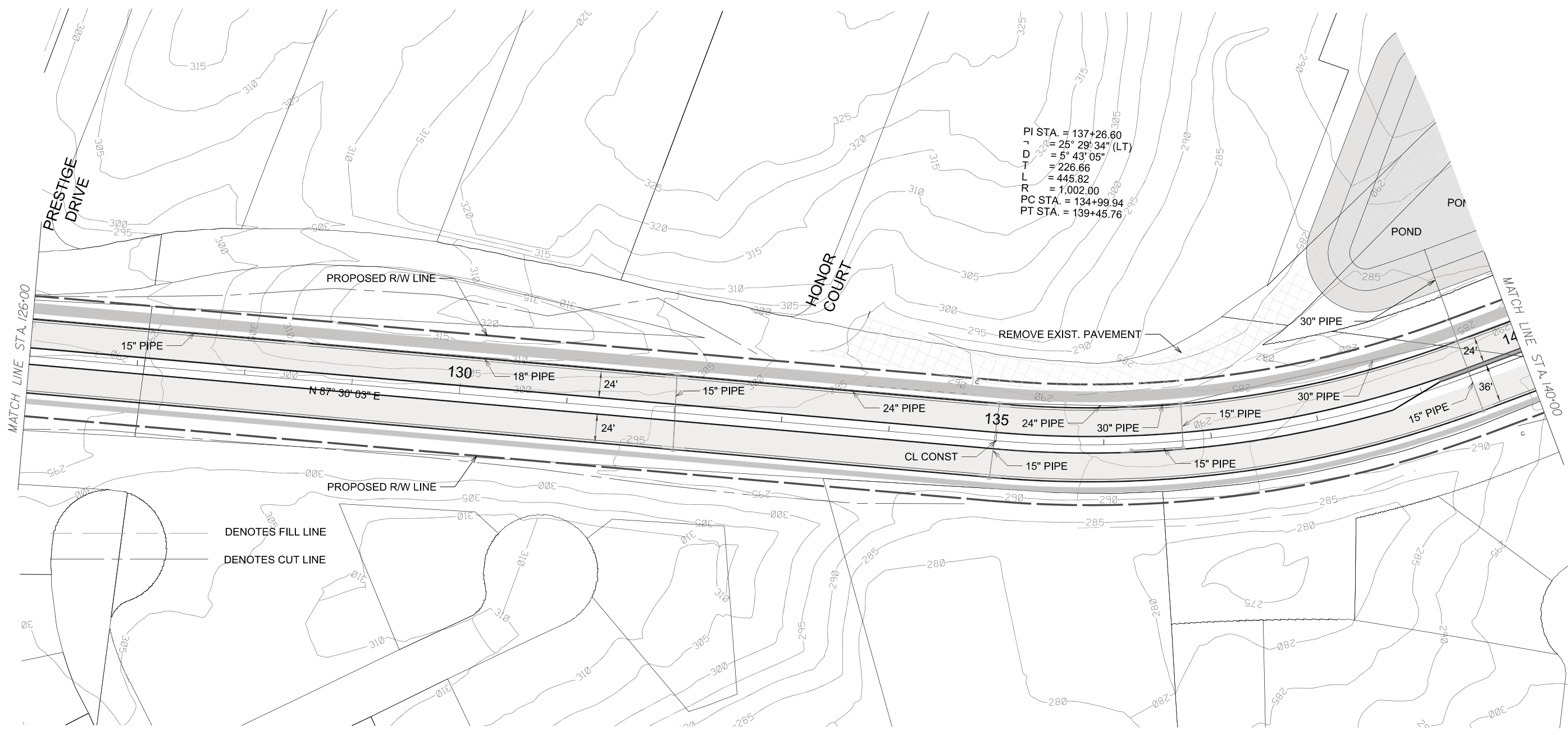
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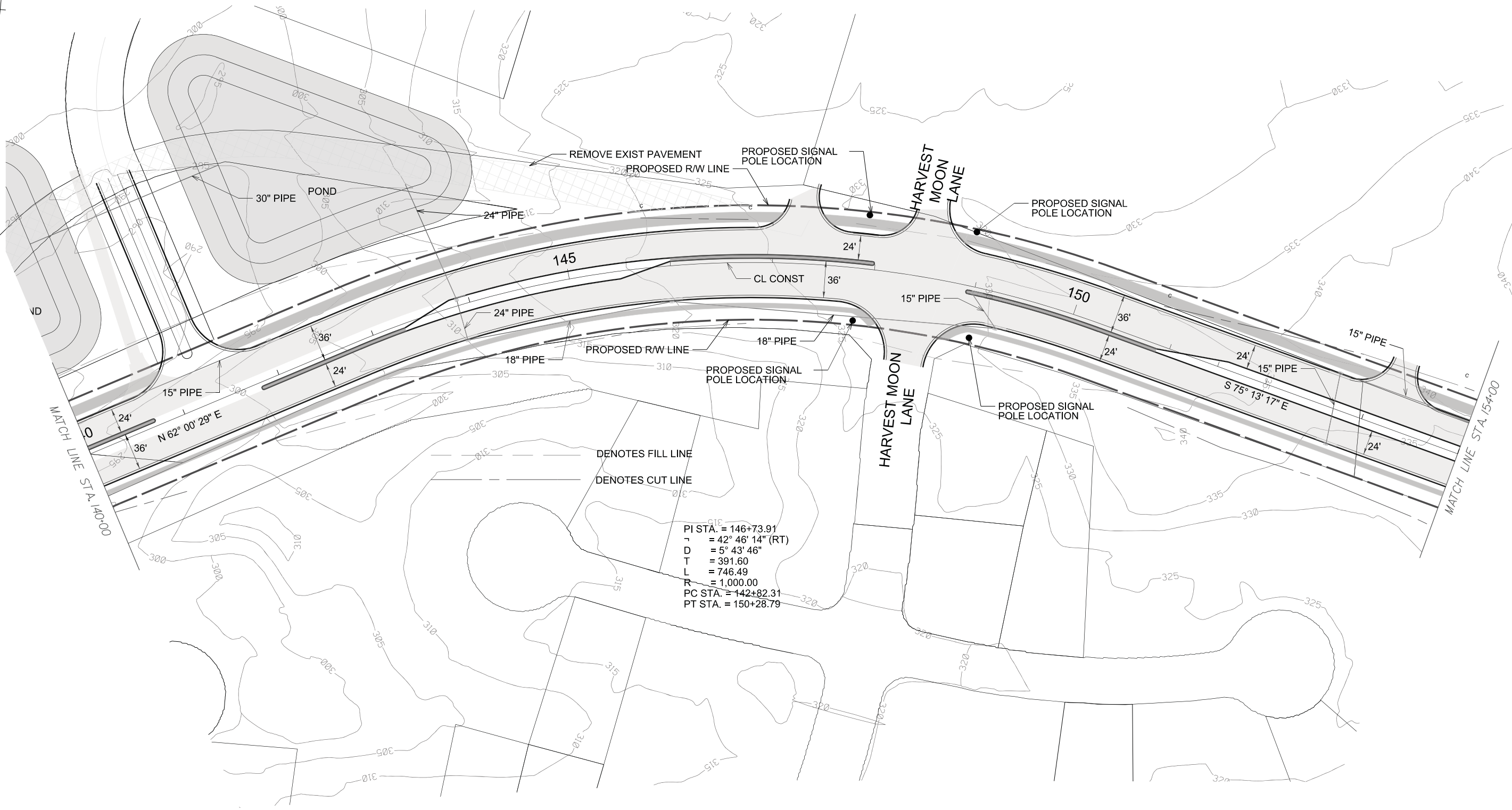
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 - - - DENOTES CUT LINE

SCALE



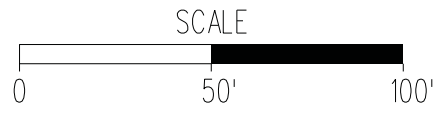


DESIGN BUILD TEAM



DENOTES FILL LINE  
 DENOTES CUT LINE

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 D = 5° 43' 46"  
 T = 391.60  
 L = 746.49  
 R = 1,000.00  
 PC STA. = 142+82.31  
 PT STA. = 150+28.79



PRINCE WILLIAM COUNTY, VA  
 DESIGN-BUILD CONCEPTUAL PPTA PROPOSAL  
 MINNIEVILLE ROAD

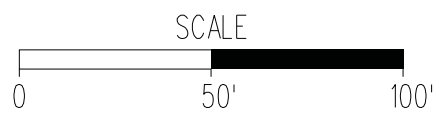
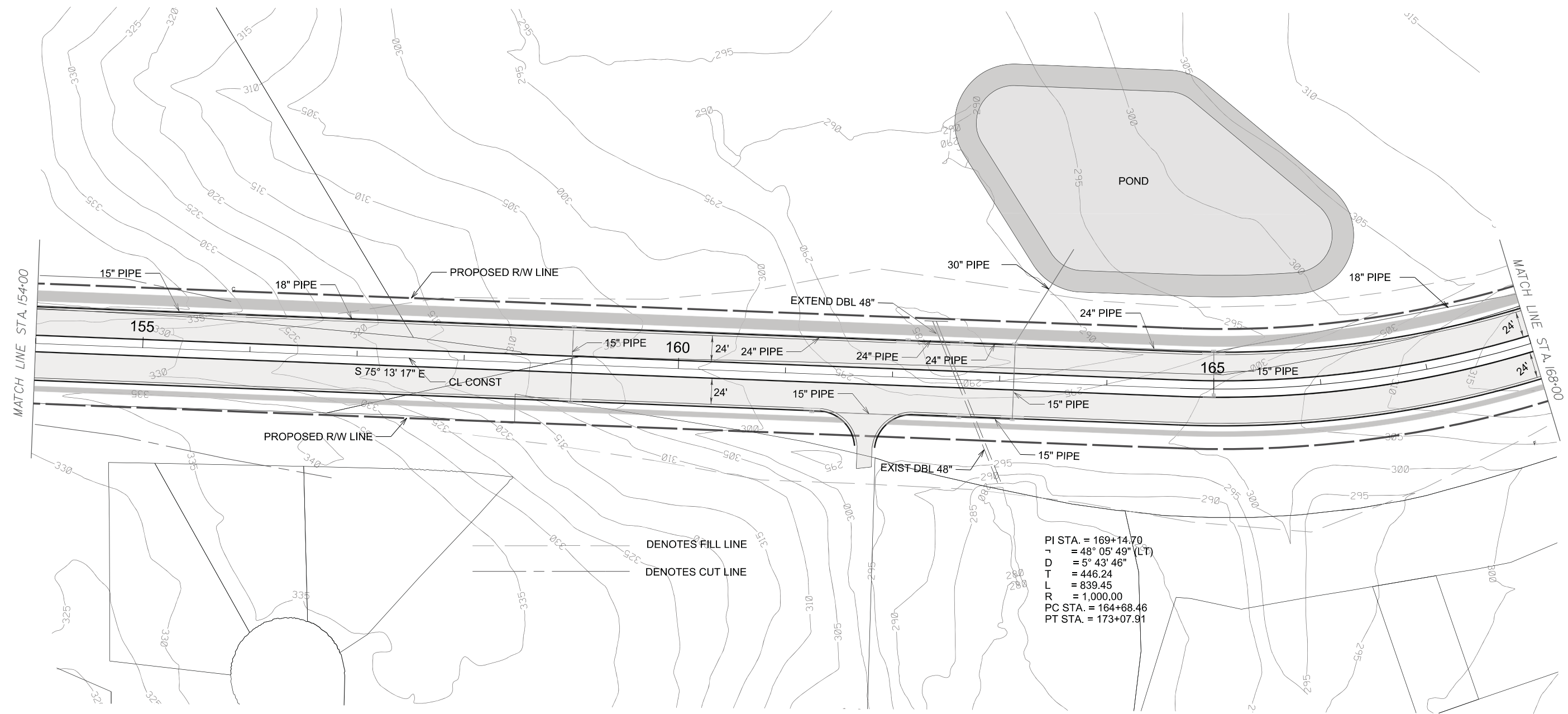
THE LANE CORPORATION  
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 40 YEARS

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PLAN SHEET

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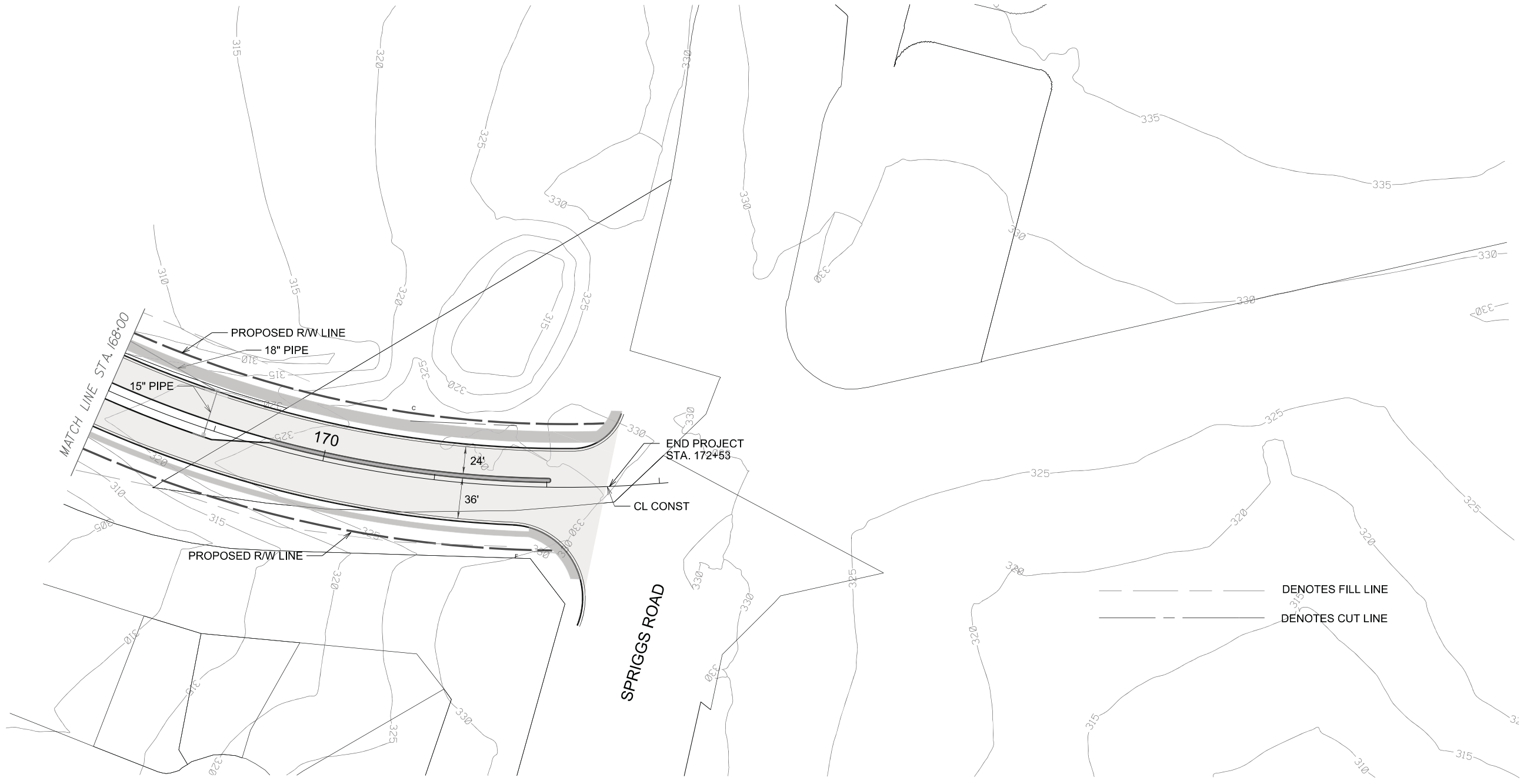


PRINCE WILLIAM COUNTY, VA  
 DESIGN-BUILD CONCEPTUAL PPTA PROPOSAL  
 MINNIEVILLE ROAD

DESIGN BUILD TEAM  

 THE LANE CONSTRUCTION CORPORATION  
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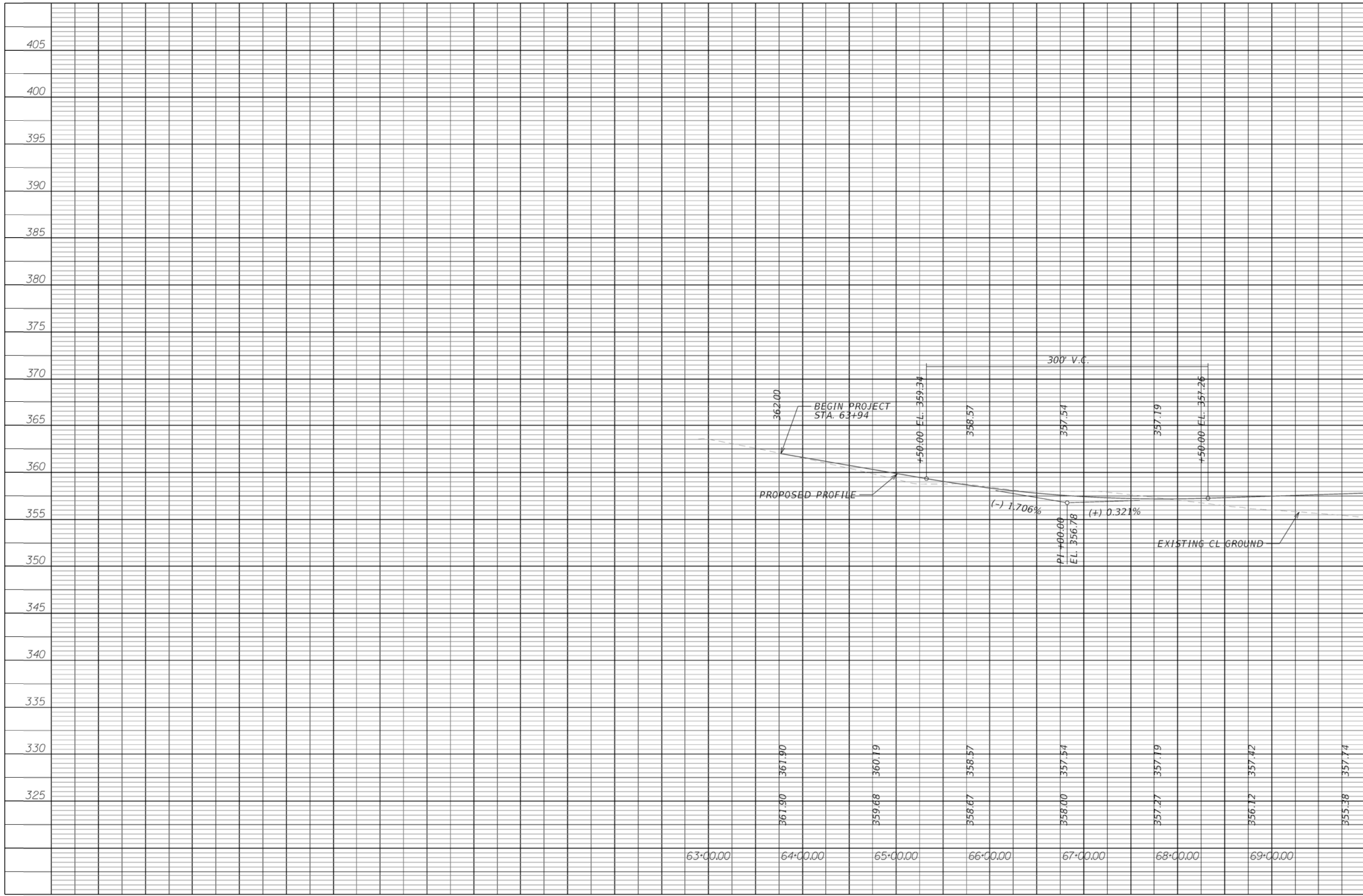
PLAN SHEET  
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DESIGN BUILD TEAM

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EST. 1917  
 A COMMITMENT TO EXCELLENCE

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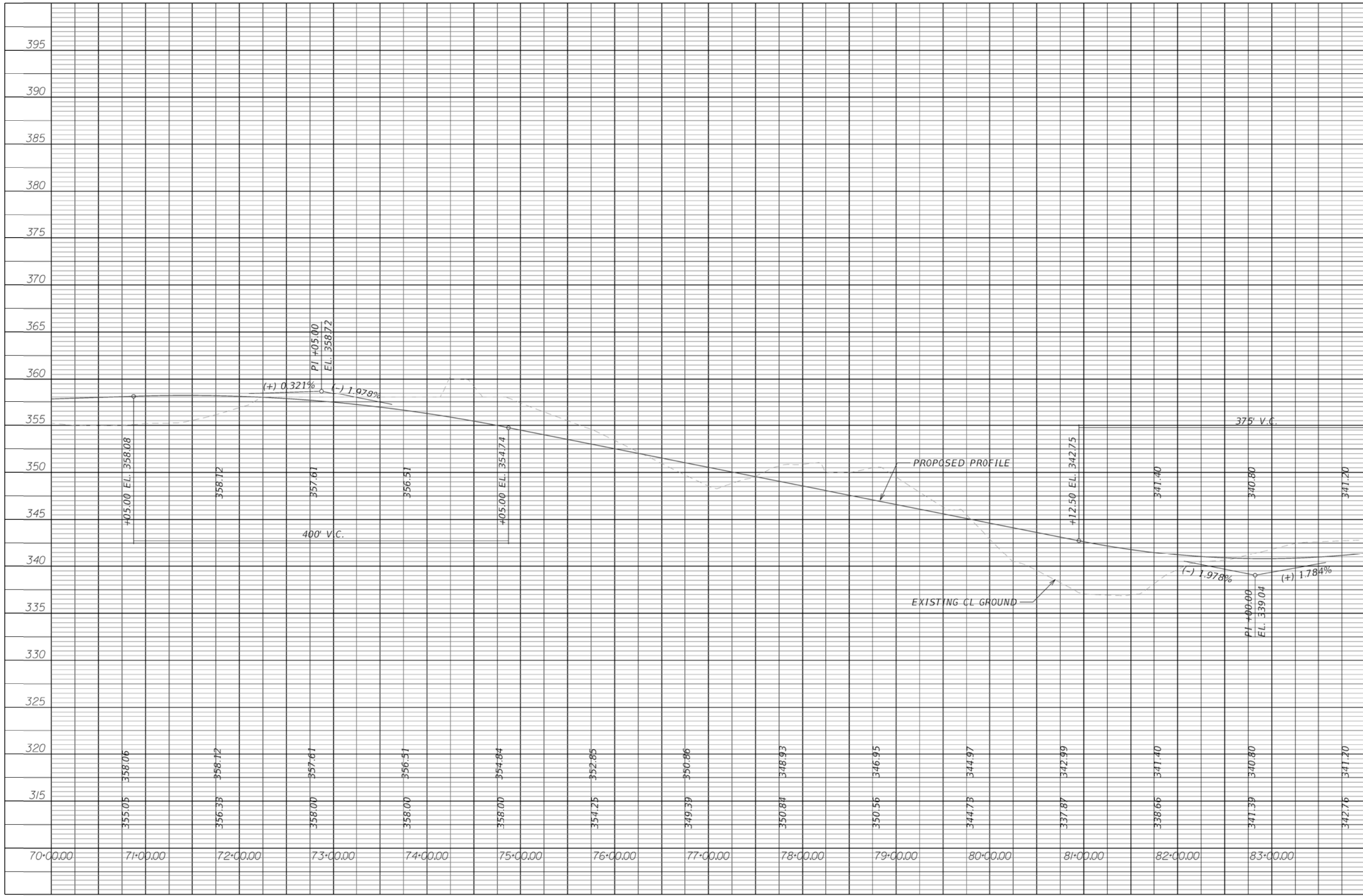
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 MINNIEVILLE ROAD

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PROFILE SHEET



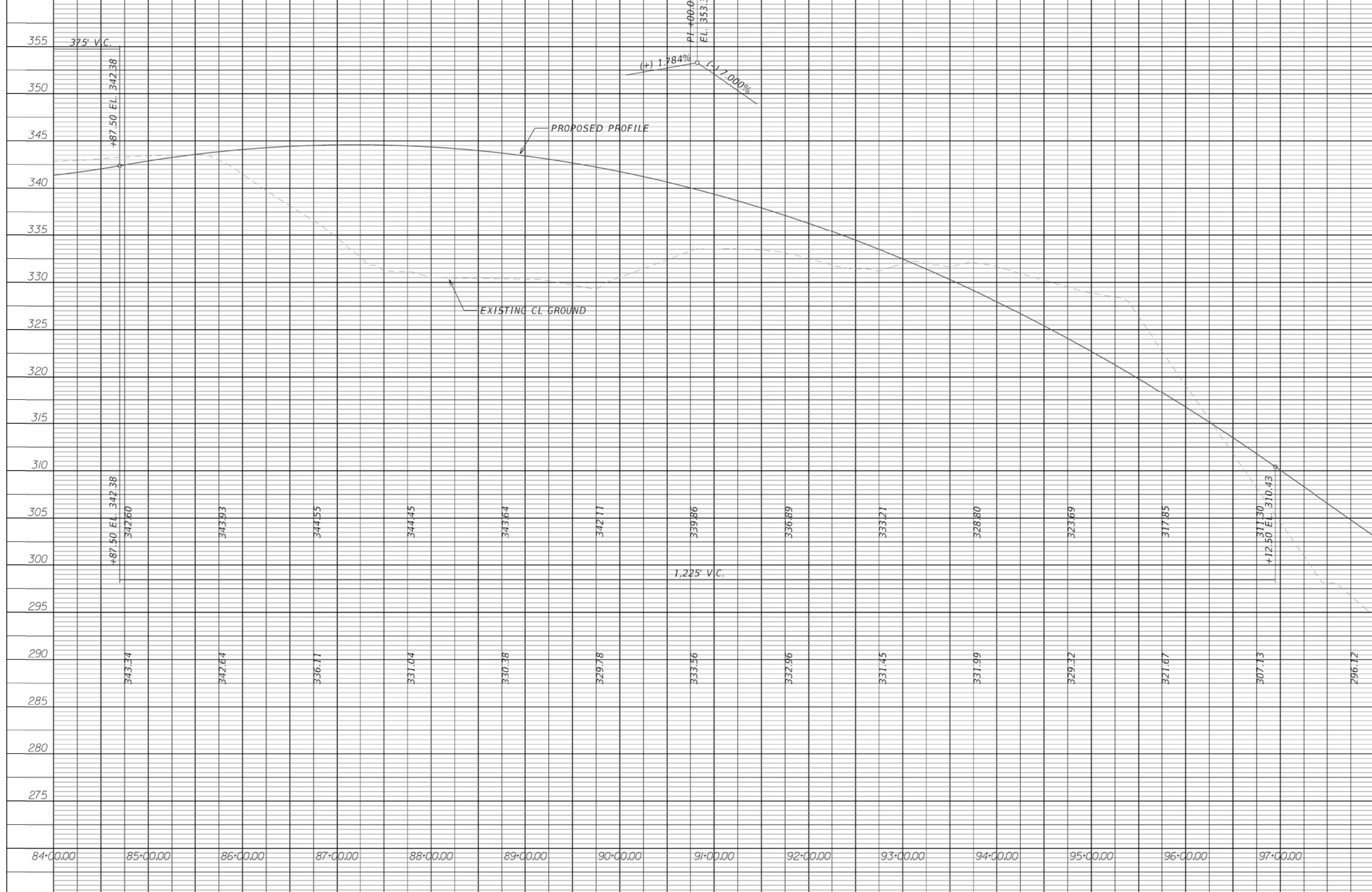
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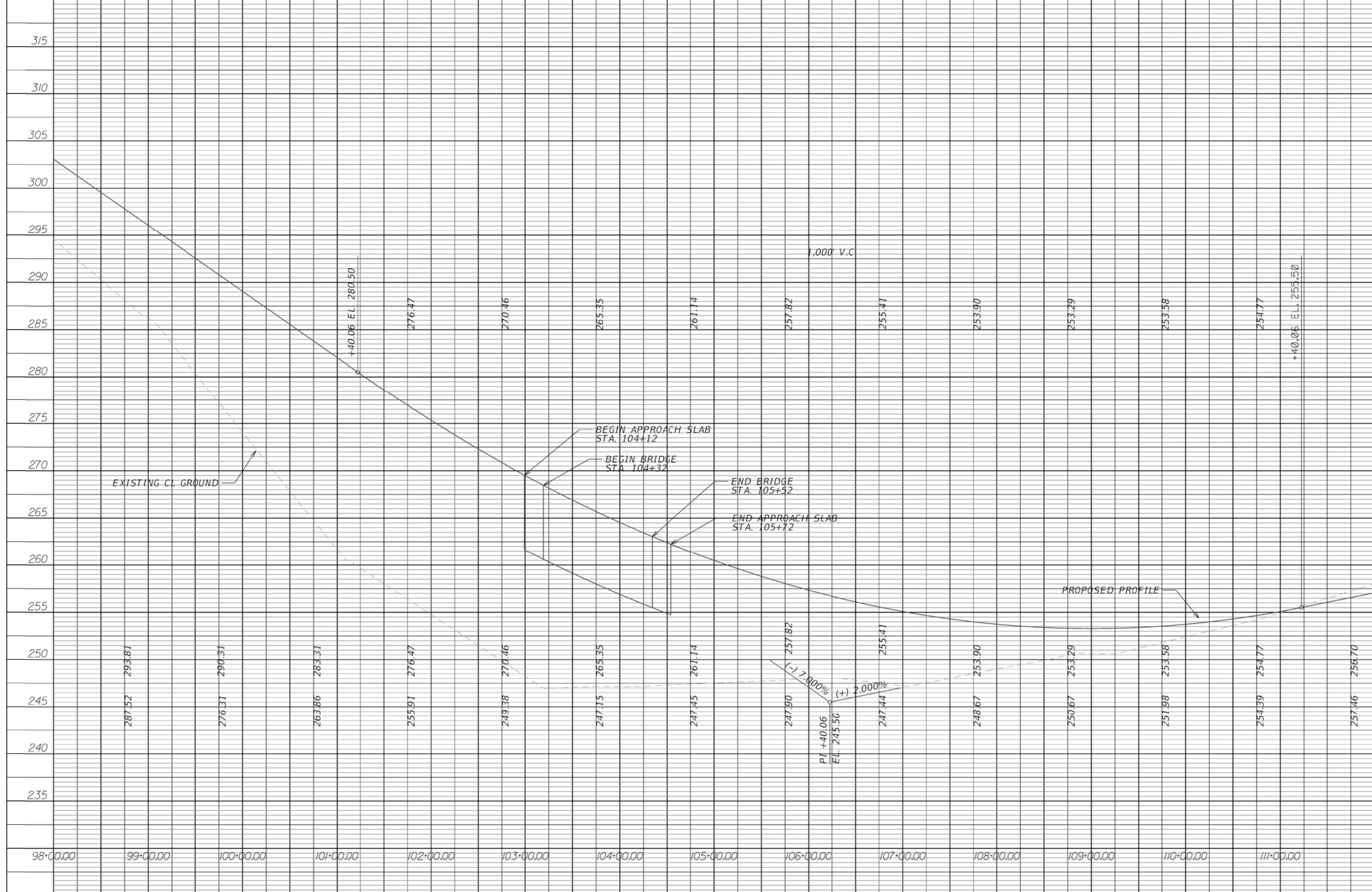
PROFILE SHEET



PRINCE WILLIAM COUNTY, VA  
 DESIGN-BUILD CONCEPTUAL PPTA PROPOSAL  
 MINNIEVILLE ROAD



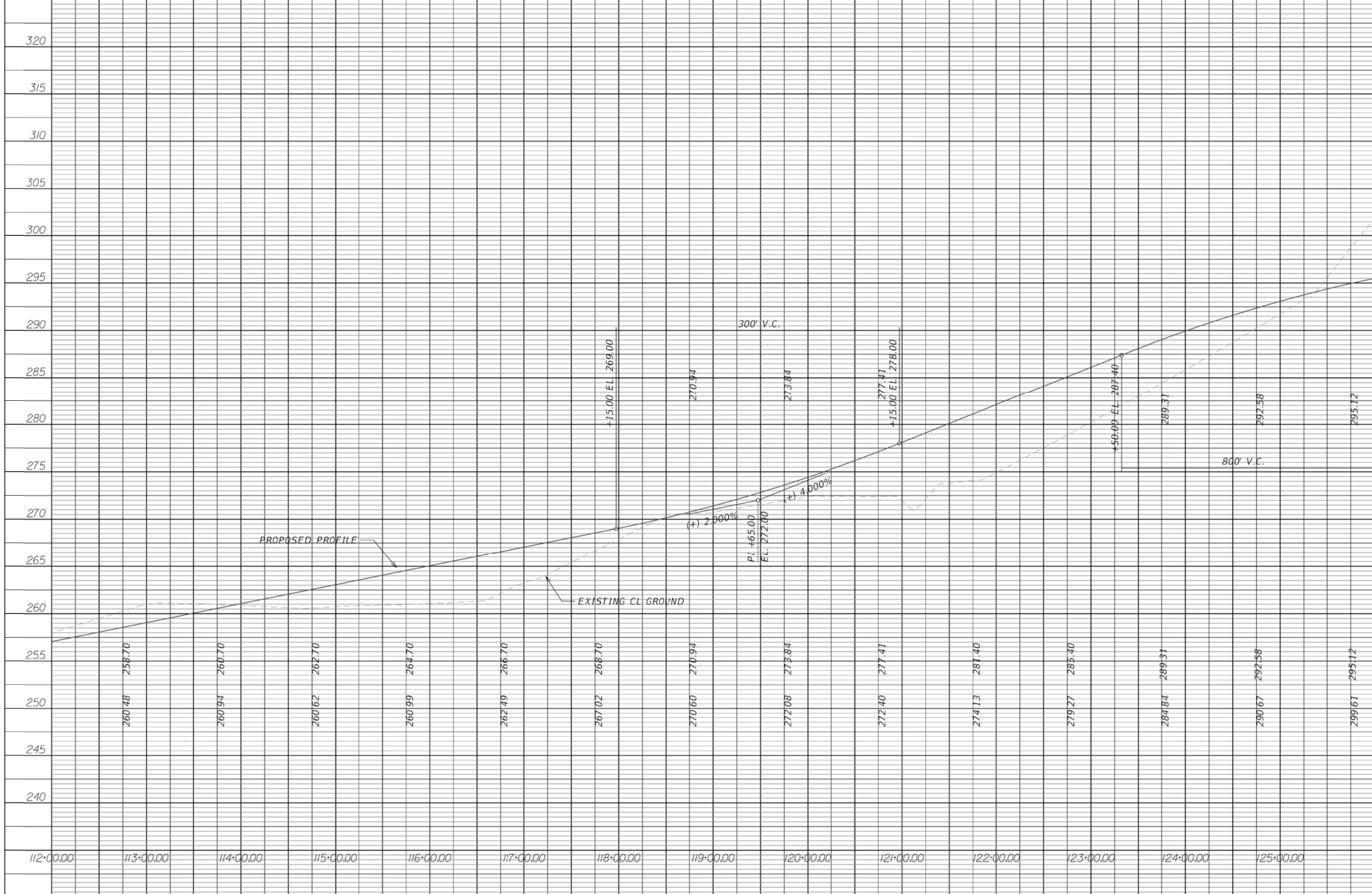
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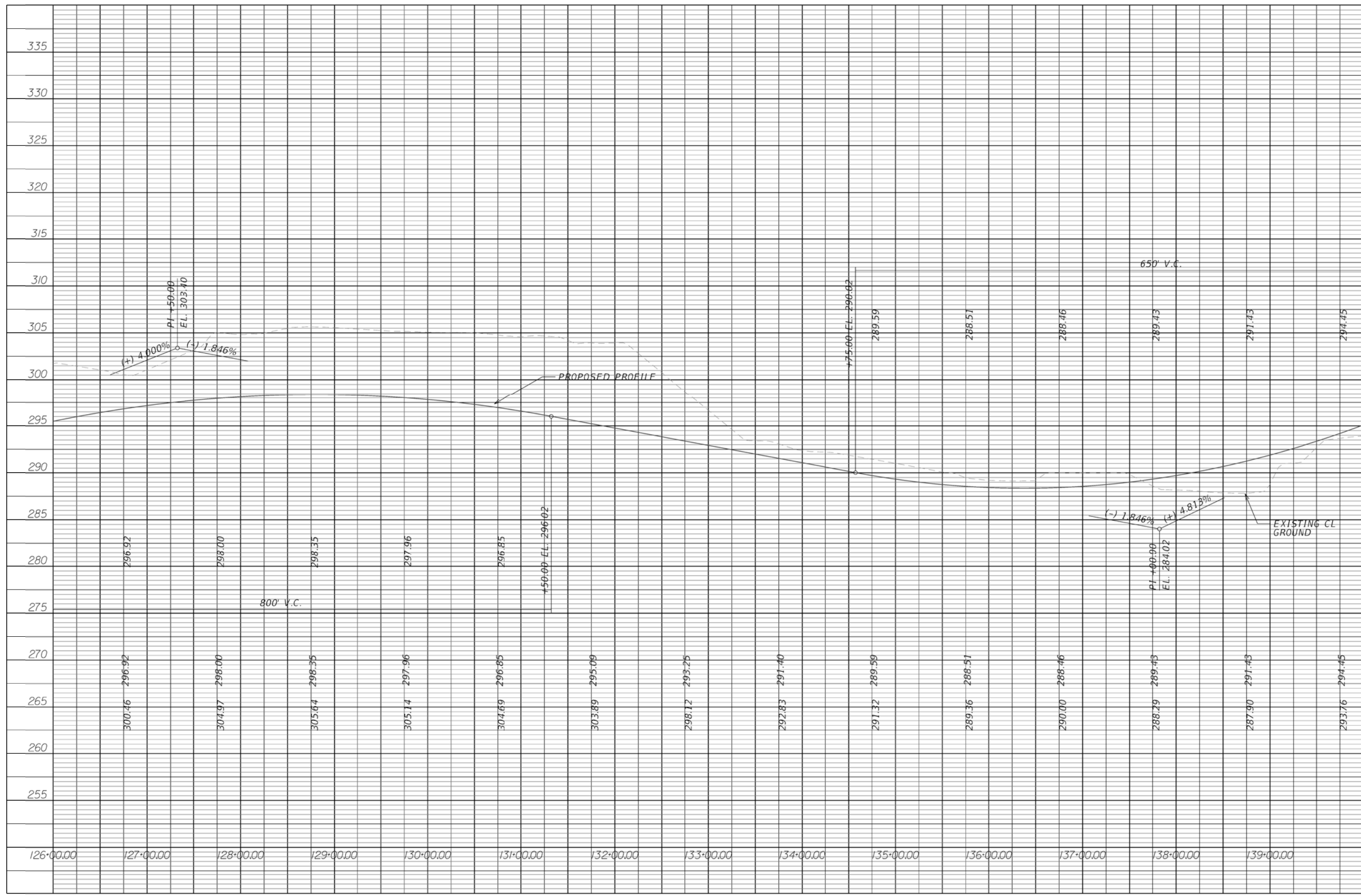
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 PROFILE SHEET



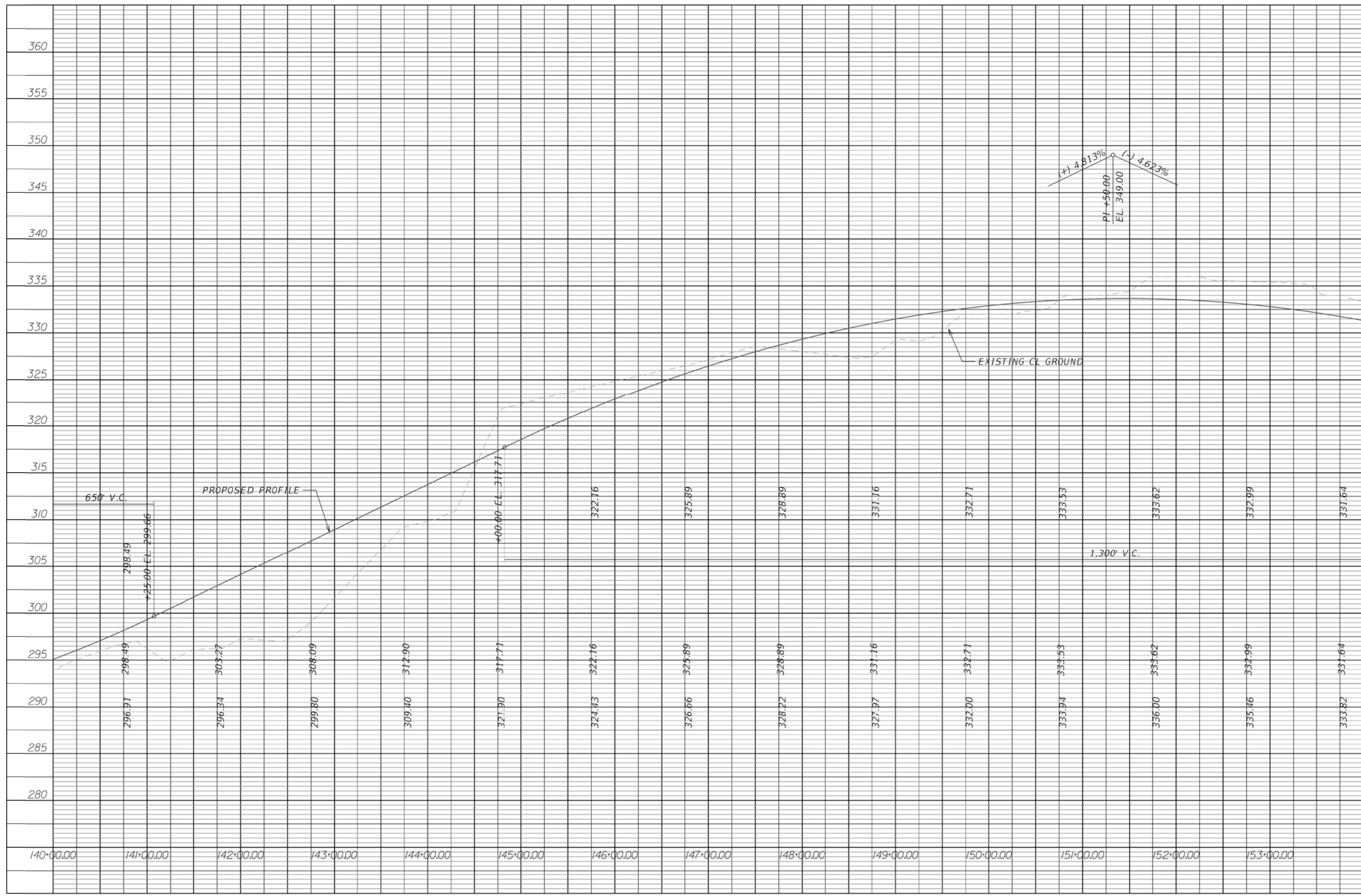
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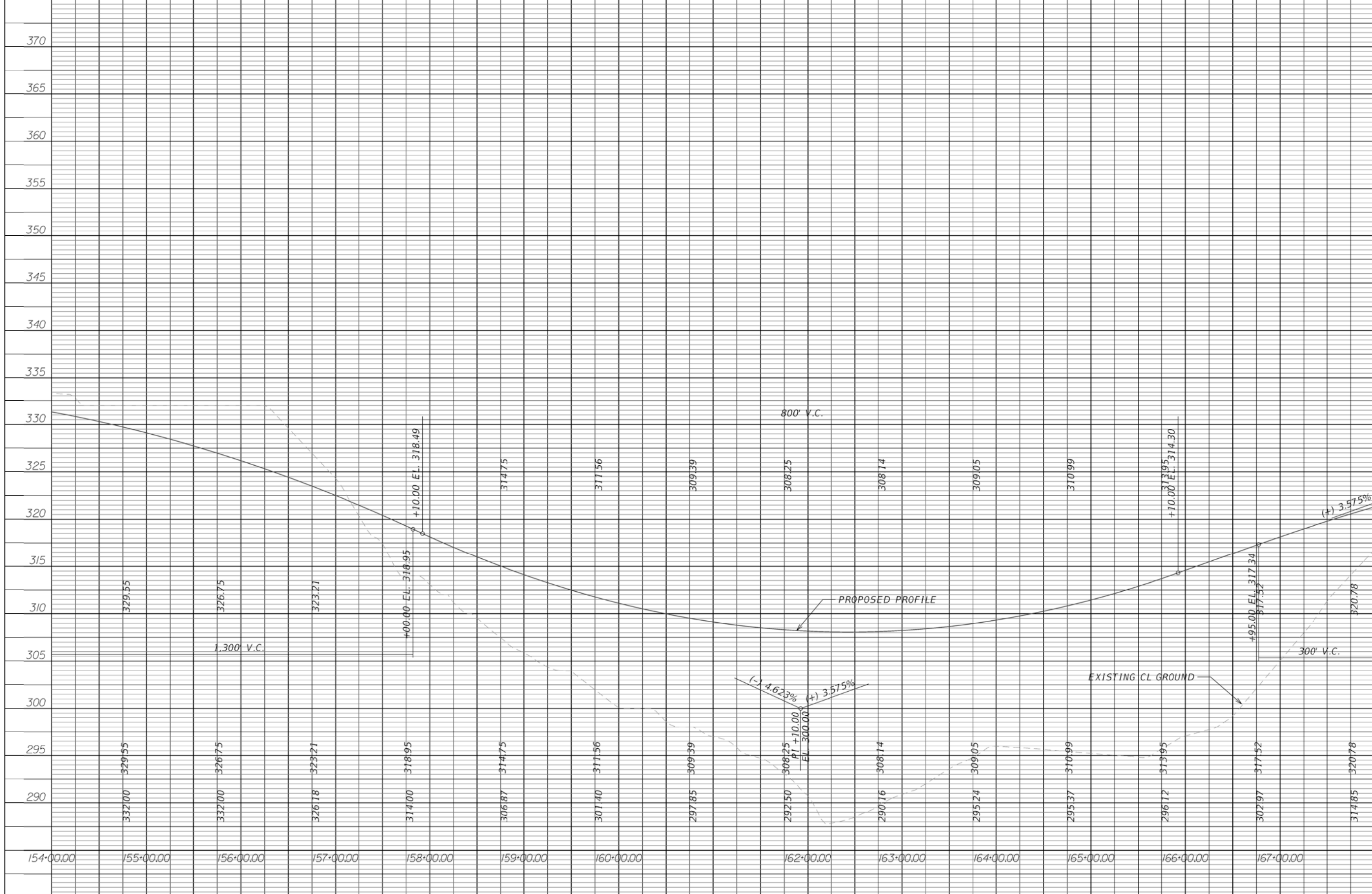
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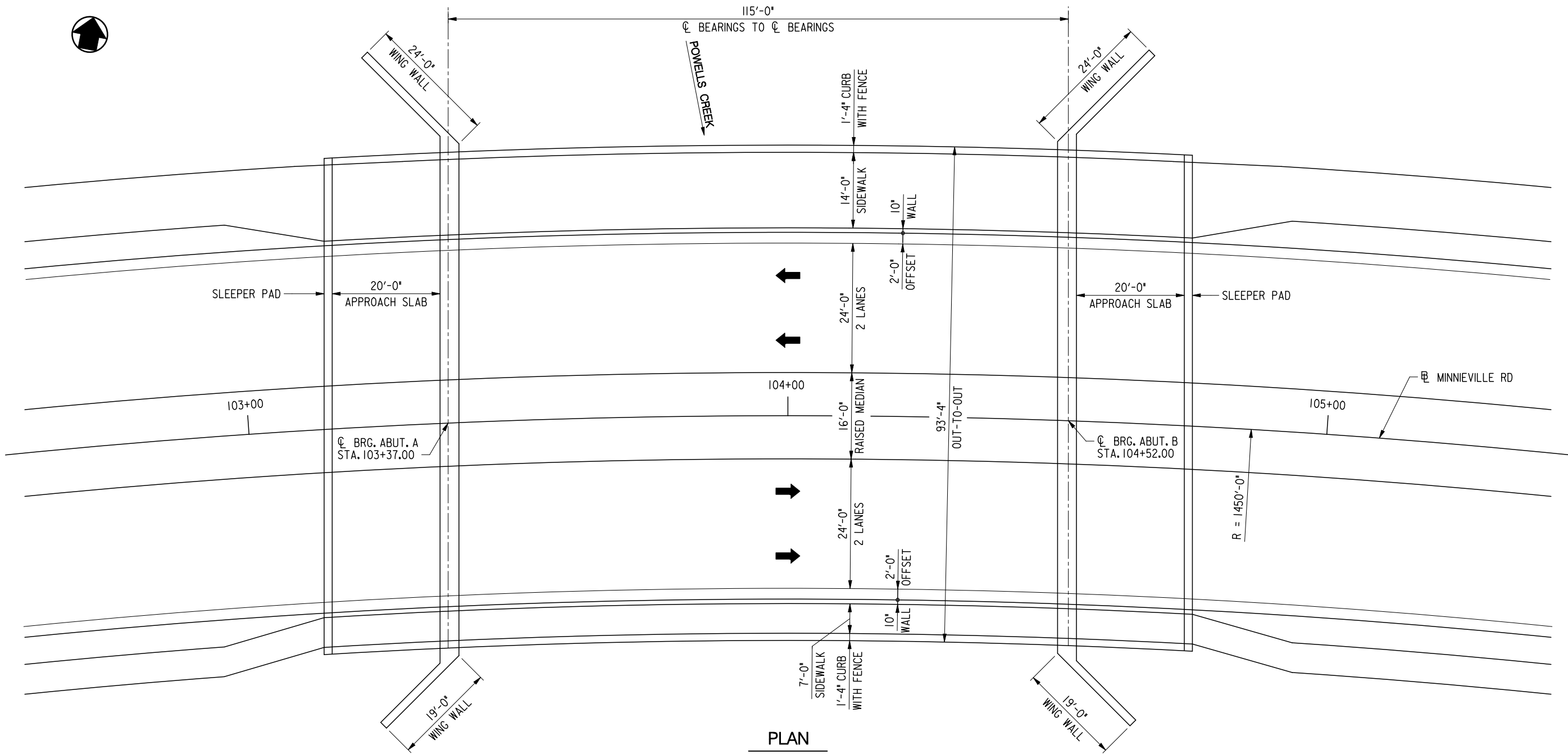
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PROFILE SHEET

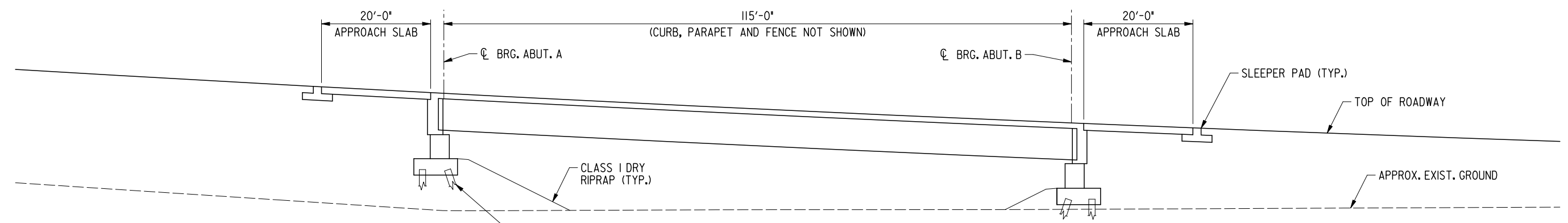
GENERAL PLAN  
& ELEVATION

DESIGN BUILD TEAM  
  
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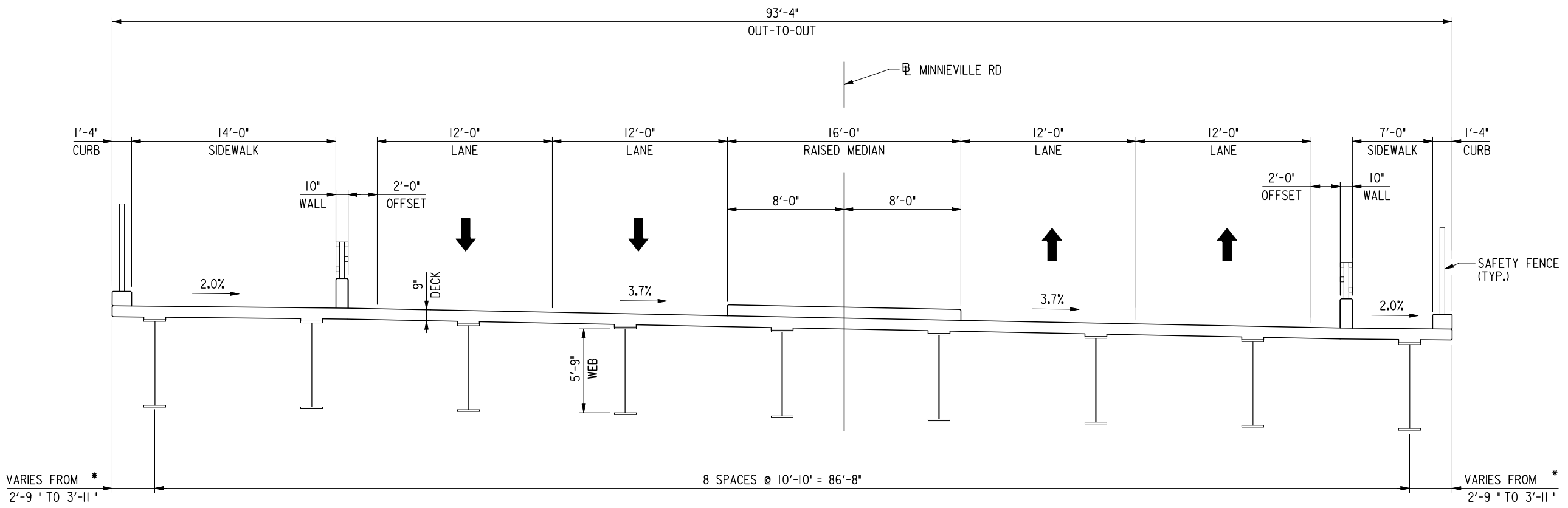
PRINCE WILLIAM COUNTY, VA  
 DESIGN-BUILD CONCEPTUAL PPTA PROPOSAL  
 MINNIEVILLE ROAD



PLAN  
 SCALE: 1" = 20'



ELEVATION  
 SCALE: 1" = 20'



VARIES FROM \*  
2'-9" TO 3'-11"

\* STRAIGHT GIRDERS ASSUMED

8 SPACES @ 10'-10" = 86'-8"

VARIES FROM \*  
2'-9" TO 3'-11"

**TYPICAL SECTION – STEEL GIRDER**

SCALE: 1/8" = 1'-0"

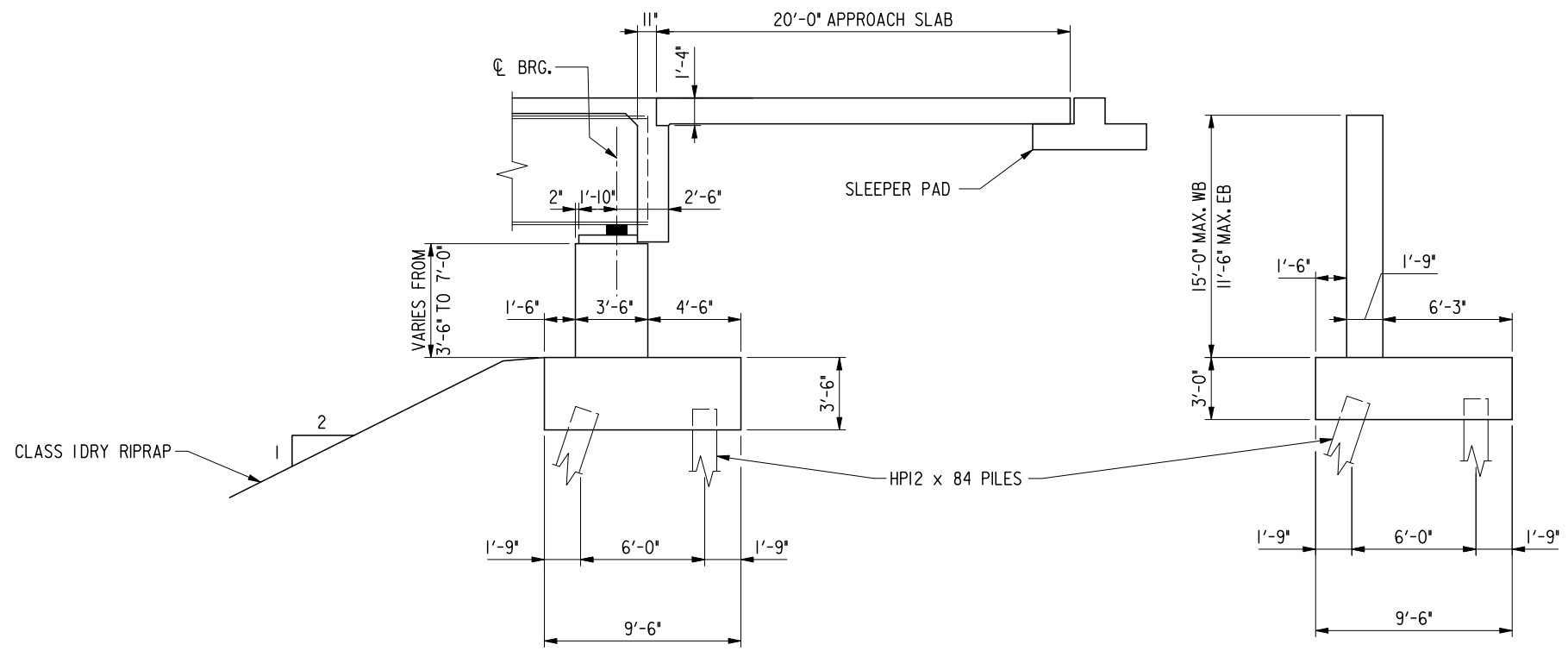
TYPICAL SECTION

DESIGN-BUILD TEAM

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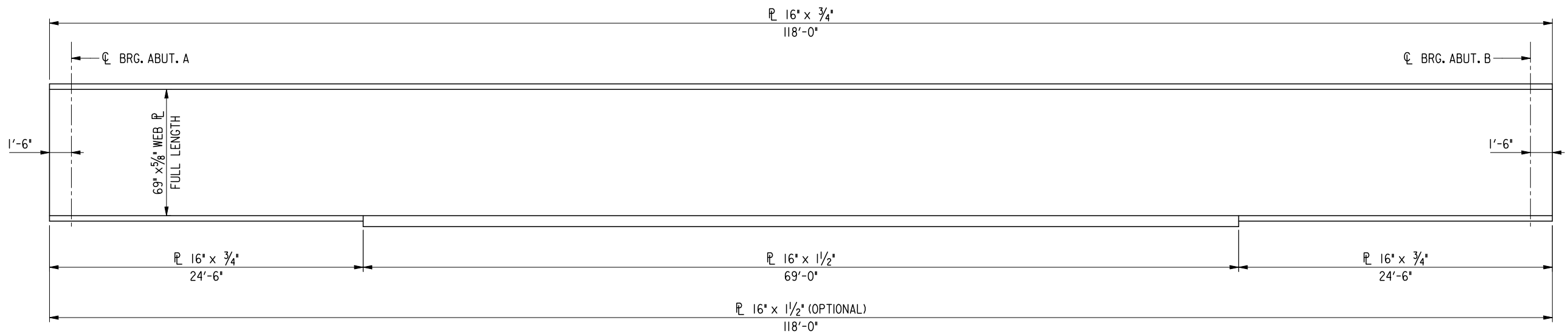
PRINCE WILLIAM COUNTY, VA  
DESIGN-BUILD CONCEPTUAL PPTA PROPOSAL  
MINNIEVILLE ROAD



**ABUTMENT SECTION**  
SCALE: 1/8" = 1'-0"

**WING WALL SECTION**  
SCALE: 1/8" = 1'-0"

FOUNDATION TYPE AND SIZE MAY CHANGE  
BASED ON GEOTECHICAL RECOMMENDATION.



**STEEL GIRDER ELEVATION**  
SCALE: N.T.S.

CONCEPT IS BASED ON  
GRADE 50 STEEL.

### III. PROJECT FINANCING

---

# Appendix 3

## Project Schedules



**Proposed Schedule 1 of 2**

				Prince Williams County Route 1 Improvements												21-Sep-11 15:58																										
Activity ID	Activity Name	Original Duration	Start	Finish	2012												2013				2014				2015																	
					Qtr 4			Qtr 1			Qtr 2			Qtr 3			Qtr 4			Qtr 1			Qtr 2			Qtr 3			Qtr 4			Qtr 1										
					S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O
<b>Prince Williams County Route 1 Improvements</b>																																										
0010	Submission of Technical & Price Proposal	0	26-Sep-11		◆ Submission of Technical & Price Proposal																																					
0020	Review of Technical & Price Proposal	97	26-Sep-11	31-Dec-11	■ Review of Technical & Price Proposal																																					
0040	Notice of Award	0	01-Jan-12		◆ Notice of Award																																					
0100	Mobilization / Setup Office	20	01-Jan-12	20-Jan-12	■ Mobilization / Setup Office																																					
<b>Design</b>																																										
D010	Submit Design QC Plan	5	03-Jan-12	09-Jan-12	■ Submit Design QC Plan																																					
<b>Right-of-Way</b>																																										
D020	ROW Plans	60	03-Jan-12	26-Mar-12	■ ROW Plans																																					
D030	Acquisition of ROW	180	27-Mar-12	07-Dec-12	■ Acquisition of ROW																																					
<b>Utilities</b>																																										
D040	Utility Coordination	240	14-Feb-12	22-Jan-13	■ Utility Coordination																																					
<b>Design Packages</b>																																										
D100	Geotechnical Sitework & Report	60	03-Jan-12	26-Mar-12	■ Geotechnical Sitework & Report																																					
<b>Roadway</b>																																										
D170	Roadway & Drainage Plans - 60%	60	14-Feb-12	07-May-12	■ Roadway & Drainage Plans - 60%																																					
D180	Roadway & Drainage Plans - 90%	30	08-May-12	19-Jun-12	■ Roadway & Drainage Plans - 90%																																					
D190	Roadway & Drainage Plans - Final	30	20-Jun-12	01-Aug-12	■ Roadway & Drainage Plans - Final																																					
<b>Erosion and Sediment Control</b>																																										
D110	E&S Design & SWM Plans - 60%	60	14-Feb-12	07-May-12	■ E&S Design & SWM Plans - 60%																																					
D120	E&S Design & SWM Plans - 90%	30	08-May-12	19-Jun-12	■ E&S Design & SWM Plans - 90%																																					
D130	E&S Design & SWM Plans - Final	30	20-Jun-12	01-Aug-12	■ E&S Design & SWM Plans - Final																																					
<b>Maintenance of Traffic</b>																																										
D140	MOT Plans - 60%	60	21-Feb-12	14-May-12	■ MOT Plans - 60%																																					
D150	MOT Plans - 90%	30	15-May-12	26-Jun-12	■ MOT Plans - 90%																																					
D160	MOT Plans - Final	30	27-Jun-12	08-Aug-12	■ MOT Plans - Final																																					
<b>Signage</b>																																										
D230	Signage Plans - 60%	60	06-Mar-12	29-May-12	■ Signage Plans - 60%																																					
D240	Signage Plans - 90%	30	30-May-12	11-Jul-12	■ Signage Plans - 90%																																					
D250	Signage Plans - Final	30	12-Jul-12	22-Aug-12	■ Signage Plans - Final																																					
<b>Lighting &amp; Signals</b>																																										
D200	Lighting & Signal Plans - 60%	60	08-May-12	01-Aug-12	■ Lighting & Signal Plans - 60%																																					
D210	Lighting & Signal Plans - 90%	30	02-Aug-12	13-Sep-12	■ Lighting & Signal Plans - 90%																																					
D220	Lighting & Signal Plans - Final	30	14-Sep-12	25-Oct-12	■ Lighting & Signal Plans - Final																																					
<b>Landscaping</b>																																										
D260	Landscaping Plans - 60%	60	08-May-12	01-Aug-12	■ Landscaping Plans - 60%																																					
D270	Landscaping Plans - 90%	30	02-Aug-12	13-Sep-12	■ Landscaping Plans - 90%																																					
D280	Landscaping Plans - Final	30	14-Sep-12	25-Oct-12	■ Landscaping Plans - Final																																					
<b>Construction</b>																																										
<b>Milestones</b>																																										
1000	Start of Construction	0	01-Apr-13*		◆ Start of Construction																																					
<b>Mobilization / Start-Up</b>																																										
0110	Equipment Mobilization	40	23-Jan-12	16-Mar-12	■ Equipment Mobilization																																					
1010	Initial Construction Layout	10	01-Apr-13	12-Apr-13	■ Initial Construction Layout																																					
<b>SEGMENT 1 Sta. 506+89 to Sta. 541+00</b>																																										
10020	Initial MOT Set-Up - Seg 1	5	01-Apr-13	05-Apr-13	■ Initial MOT Set-Up - Seg 1																																					
10010	Install E&S Control - Seg 1	10	08-Apr-13	19-Apr-13	■ Install E&S Control - Seg 1																																					
10030	Construct NB Widening - Seg 1	45	22-Apr-13	24-Jun-13	■ Construct NB Widening - Seg 1																																					
10040	Traffic Switch - Seg 1	5	25-Jun-13	01-Jul-13	■ Traffic Switch - Seg 1																																					

■ Actual Work ■ Critical Remaining Work  
■ Remaining Work ◆ Milestone





# **IV. PROJECT BENEFIT & COMPATIBILTY**

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## **IV. PROJECT BENEFITS & COMPATIBILITY**

*2(a) Provide a description of the project, including the conceptual design. Describe the proposed project in sufficient detail so that type and intent of the project, the location, and the communities that may be affected are clearly identified.*

### **A. Project Beneficiaries**

*4(a) Identify who will benefit from the project, how they will benefit and how the project will benefit the County and the overall community.*

As discussed in detail in Section 2 of this proposal, the successful completion of the road improvements contemplated as part of this proposal will benefit several specific groups of citizens within Prince William County. Identification of those groups as well as a discussion of how they are benefited follows.

#### **1) Commuters**

The two road improvement projects will add significant capacity and interconnectivity to the infrastructure of Prince William County. These improvements to the Prince William County infrastructure translate directly to reduced travel times for that portion of the Prince William County that commute daily to their jobs.

The Route 1 improvements are especially beneficial to commuters who utilize Interstate 95 from points within the County.

#### **2) Businesses**

Expanded transportation capacity within Prince William County is a direct benefit to businesses throughout the County. Additional transportation options increase mobility within the County resulting in greater numbers of people with the ability to access businesses. This is not only true for individuals living within the borders of the County but for those individuals who wish to visit the County for other reasons.

#### **3) Pedestrians/Bicyclists**

The inclusion of facilities in both of the road improvement projects results in improved connectivity of pedestrian facilities within the County. This greater connectivity serves to encourage the use of alternative modes of transportation, especially for shorter trips.

#### **4) Prince William County**

The benefits to the specific groups stated above translates directly to benefits for Prince William County as a whole. Shorter commutes improve livability which in turn results in Prince William County becoming an even more desirable location to live. An improved infrastructure leads to larger number of businesses which directly contribute to the overall tax base. Improved pedestrian facilities result in a higher overall satisfaction of those citizens residing in Prince William County. In short, these improvements support many of the specific strategies discussed in the Prince William County Comprehensive Plan to improve the County as a whole.



## B. Public & Government Support or Opposition

*4(b) Identify any anticipated public support or opposition, as well as any anticipated government support for (including that in any affected jurisdiction), for the project.*

### 1) Public Support or Opposition

Given the approval of the 2006 Road Bond Referendum which included both of the proposed road improvement projects, it can be reasonably assumed that each of these projects has the general support of the citizens of Prince William County. The benefits of each of these projects are substantial and will result in a direct improvement to the citizens of Prince William County's quality of life.

### 2) Government Support or Opposition

As a result of the anticipated public support for these projects, our team anticipates general support from Prince William County government.

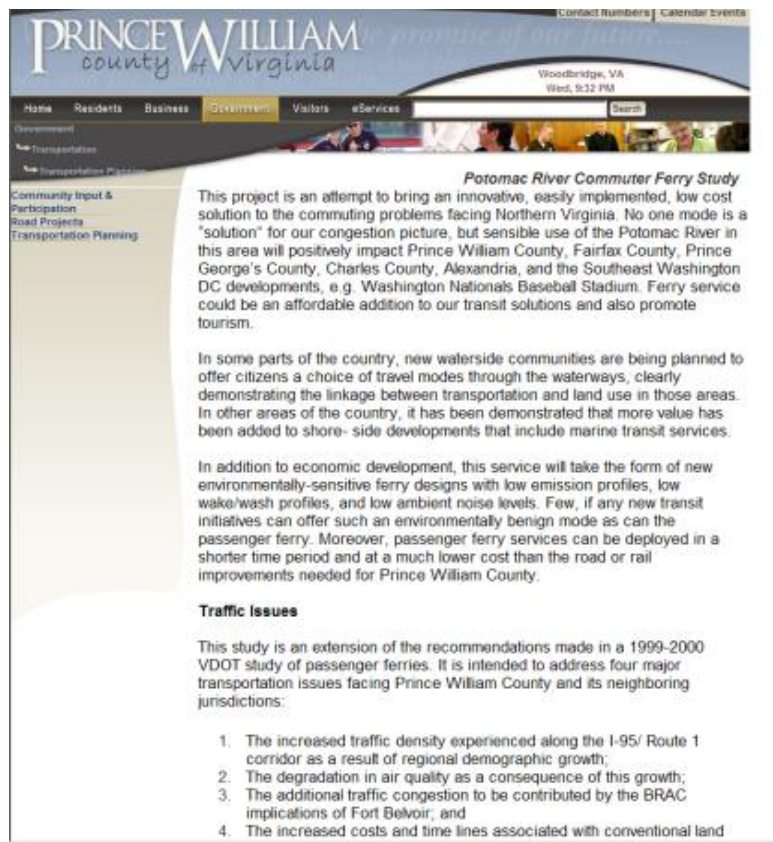
In addition to the assumed public support, each of these projects has been identified in the Prince William County Comprehensive Plan as well as the Capital Improvements Plan. Our team will work closely with staff to ensure that any concerns raised by the members of the Prince William County Board of County Supervisors are adequately addressed.

## C. Public Involvement

*4(c) Explain the strategy and plans, including the anticipated timeline that will be carried out to involve and inform the general public, business community, and governmental agencies in areas affected by the project.*

### 1) Team Capabilities

Our team has designed and conducted numerous public and agency involvement programs for a wide variety of federal and state and local projects. Our outreach programs are designed to present technical issues and concepts in a manner that can be understood by a lay audience. We are adept at developing, organizing, and conducting meetings for the public, public officials, agencies, special interest groups, and focus groups. Our creativity in conducting meetings and structuring formats encourages public participation and cooperation.





Our team's public outreach and public involvement coordinators develop public relations programs, helping clients develop strong, positive relationships between the lead agency, the project team, and the media. Our staff works closely with our team's in-house Graphics Department and Photography Lab to produce all types of public information and display materials, including black-and-white and full-color brochures and pamphlets, newsletters, informational hand-outs, stand-alone and wall displays, slide shows, videotapes, and logos and identity pieces. Experience includes working with local citizen groups and environmental organizations, and with the print, radio, and television media whose audiences are in the Washington metropolitan area, as well as the development of project websites.

Our team has the ability to coordinate all public involvement and agency coordination aspects, including preparation of minutes, agency and public correspondence, telephone communications, advertising, and media relations. We constantly strive to develop new methods and techniques that will foster public support and, in turn, result in a community supported project.

As a result of our team's extensive experience with public on-call infrastructure contracts in urban areas, our team has had numerous opportunities to create and participate in community outreach campaigns. Our experience ranges from web page development to interaction with steering committees, to public meeting coordination and participation to working with individuals on a one-on-one basis. The table to the left highlights some of the many projects in which our team has played a significant role in public outreach.

## 2) Project Strategy

For each of the road improvement projects, our team will develop a public information document which clearly describes the project's purpose, scope and location, the proposed schedule and cost, the source of funding, and explain how the project conforms to the overall goals of the Prince William County Comprehensive Plan. The document will also contain contact information for our management personnel those citizens requiring additional information and contain the address to the project website.

This document will be distributed to those residents and businesses within the influence of the proposed project limits.

Our team will work closely with Prince William County to determine the need and format for any public information meetings, the County may wish to hold. Senior members of our design and construction staff will attend these meetings and be available to answer any questions that may arise. We will prepare graphic boards that are easy to read and understand.

In addition, should the need arise, members of our team will be available to accompany County staff to meet with individual land owners who are heavily impacted by one of the projects.

Our schedule for public outreach is incorporated into our schedule included in Section 3.



## D. Significant Benefits to Prince William County

*4(d) Describe any anticipated significant benefits to the community and the County, including anticipated benefits to the economic, social, environmental, transportation, etc., condition of the County and whether the project is critical to attracting or maintaining competitive industries and businesses to the County.*

As set forth in previous sections of this proposal, the construction of these road improvement projects comes with significant and measurable benefits to Prince William County.

These projects improve connectivity and capacity of the existing infrastructure (vehicular and pedestrian) of Prince William County. This added connectivity and capacity translate directly to shorter commute times for residents of Prince William County, a greater standard of living, and shorter travel times for intra-county travel. Also, the modern design will provide appropriate enhancements to reduce environmental impacts such as flooding, soil erosion and property damage.

These benefits encourage the relocation of individuals and businesses to Prince William County which in turn translates to higher tax rolls.

## E. Compatibility with Local Comprehensive Plan

*4(e) Compatibility with the County's and/or affected jurisdiction's local comprehensive plan (including related environmental, land use and facility standards ordinances, where applicable), infrastructure development plans, transportation plans, the capital improvements plan and capital budget or other government spending plan.*

Lane has thoroughly reviewed Prince William County's Comprehensive Plan and Capital Improvements Plan and has found the following. Each of the road improvement projects contemplated as part of this proposal are included in the Prince William County Comprehensive Plan. Furthermore, these proposed road improvements support the following strategies stated within the Transportation section of the plan.

T1:	<i>Support policies that increase safety for all transportation modes</i>
T3:	<i>Provide measures to minimize potential safety concerns created by conflicting modes of travel</i>
T5:	<i>Strive to reach targeted level of service goals set for all transportation modes and achieve consistent travel times to destinations for mode users</i>
T7:	<i>Provide a variety of trip mode options aimed at reducing the potential travel time required to make a trip.</i>
T8:	<i>Improve and maintain transportation mode accessibility for all citizens.</i>
T9:	<i>Ensure the capacity of the transportation network is sufficient to meet the demands placed upon it for both weekday and weekend conditions.</i>

In addition, both road improvement projects contemplated as part of this proposal are included in the Prince William County Capital Improvements Plan.



# LANE

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