



Project No. DGS C-0251-0095 Phase 1

March 26, 2019

Regional Traffic Management Center and Parking Structure

Submitted to:

Department of General Services
Attn: Toni Dolan
3rd Floor Arsenal Building
1800 Herr Street
Harrisburg, PA 17103

Submitted by:

Urban Engineers, Inc.
530 Walnut Street
Philadelphia, PA 19106





530 Walnut Street
Philadelphia, PA 19106
215.922.8080

March 25, 2019

Toni Dolan
Department of General Services
3rd Floor Arsenal Building
1800 Herr Street
Harrisburg, PA 17103

**RE: Project DGS C-0251-0095 Phase 1
Construction Management Services for Regional Traffic Management Center and Parking Structure**

Dear Ms. Dolan:

Urban Engineers, Inc. (Urban) is excited for the opportunity to provide the Pennsylvania Department of General Services (DGS) with Construction Management Services for the Pre-Construction and Construction Stages of the Regional Traffic Management Center and Parking Structure Project. Urban has compiled an excellent team of technical and construction professionals from **Drive Engineering, Arora Engineers, Inc., Timothy Haahs & Associates, Kelly Maiello, Inc., and RIG Consulting, Inc.** The Urban Team has a strong working relationship from partnering on previous projects, and brings you the advantage of extensive project experience in the following areas:

- Design – Build Projects
- Traffic Management Centers
- Parking Structures
- Separations Act – Multi-Prime Contractors
- DGS Projects and the Use of e-Builder
- Federal Highway Administration Federally Funded Projects
- PennDOT District 6-0
- Intelligent Transportation Systems (ITS) and Technology Integration.

The Urban Team is really looking forward to working with you on this exciting project and will provide you with cost-effective, proactive construction management services to deliver a high quality project on time and within your budget. Please contact our **Project Director, Stephen Ehrlich, PE, LEED AP** at **215-922-8080 x1396** or Sehrlich@urbanengineers.com.

Very truly yours,
Urban Engineers, Inc.

A handwritten signature in blue ink, appearing to read 'William T. Thomsen'.

William T. Thomsen, PE
Senior Vice President

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1. Construction Management Team Overview

1. Construction Management Team Overview

The Project is a new Regional Traffic Management Center (RTMC) and Parking Structure on the existing site of the Pennsylvania Department of Transportation (PennDOT) Engineering District 6-0 Office Building. The Project is a Department of General Services (DGS) project with PennDOT as the client agency and the Federal Highway Administration (FHWA) providing Federal funding and oversight. The Work on the Project will be governed by the Contract Documents as defined in the Design Build Contract. Jacobs Engineering Group, Inc. (Jacobs) is responsible for the preparation of the 30% conceptual design package bridging documents. Construction contracts will be held by DGS and will be in accordance with the Separations Act. The Project will seek to achieve LEED Silver certification in accordance with LEED v4 BD&C: New Construction.

The Urban Engineers Team is uniquely qualified to provide DGS with proactive and cost effective construction management services to deliver a high quality project on time and budget. The Team is comprised of project professionals who have worked well together on previous projects and who have experience in the key elements of this Project:

- DGS construction management experience;
- Design – Build projects;
- Multi-Prime (Separations Act) projects;
- Management of Federal Highway Administration (FHWA) funded projects;
- Traffic Management Centers;
- Parking Structures;
- Intelligent Transportation Systems (ITS);
- Management of Federal Highway Administration (FHWA) funded projects;
- Management of Buy America (23 CFR 635.410) requirements;
- Project experience with PennDOT District 6-0.

The Urban Team is enhanced with the inclusion of our subconsultants. Provided below is a listing of the subconsultants and their role on the Team.

- Arora – design review services and subject matter expert in Communications, Fire-Life Safety, Security and Architecture;
- Timothy Haahs & Associates – design review services and subject matter expert in Parking Structures;
- Kelly Maiello Architects – design review in Architecture with particular attention to specifications for multi-prime projects and the proper organization of project submittals in E-Builder;
- Drive Engineering – design review services and subject matter expert in Intelligent Transportation Systems and the PennDOT Project Collaboraton Center (PPCC) system;
- RIG Consulting, Inc. – construction inspection on PennDOT and DGS facility projects.

1. Organization Charts

Construction Management will include Pre-Construction and Construction Stage services. The structure of the Urban Team is depicted in the two Organizational Charts provided on the following pages. One chart is for the Pre-Construction Stage and the second is for the Construction Stage.

**Pennsylvania Department of
General Services**

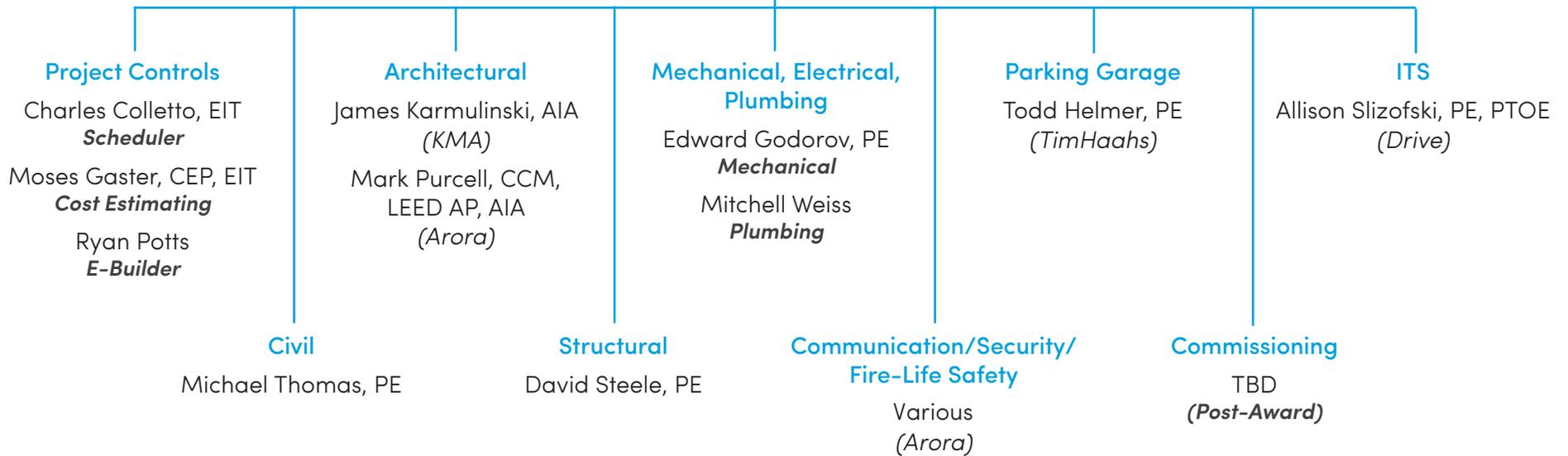
PennDOT
District 6-0

Project Director

Stephen Ehrlich, PE, LEED AP

Project Manager

Phil Petrone, PE



Legend

- ◆ *Resume Included*
- (KMA)** Kelly Maiello Architects
- (Arora)** Arora Engineers
- (TimHaahs)** Timothy Haahs & Associates
- (Drive)** Drive Engineering
- (RIG)** RIG Consulting, Inc.

**Pennsylvania Department of
General Services**

PennDOT
District 6-0

Project Director
Stephen Ehrlich, PE, LEED AP ♦

Project Manager
Phil Petrone, PE ♦

Assistant Project Manager
Ryan Potts ♦

Project Controls

Charles Colletto, EIT ♦
Scheduler
Moses Gaster, CEP, EIT ♦
Cost Estimating
Kemley Whiteside
Project Clerk

Senior Construction Managers

Peter Bobrowski
(RIG)
James Howley, NICET IV

QA/Testing

TBD
(Post-Award)

Commissioning

TBD
(Post-Award)

Technical Resources

ITS	Parking Garage	Architectural	MEP	Civil	Structural	Communication/Security/ Fire-Life Safety
Allison Slizofski, PE, PTOE ♦ <i>(Drive)</i>	Todd Helmer, PE ♦ <i>(T.Haahs)</i>	Mark Purcell, CCM, LEED AP, AIA ♦ <i>(Arora)</i>	Ed Godorov, PE	Mike Thomas, PE	David Steele, PE	<i>(Arora)</i>

Legend

♦ *Resume Included*

(KMA) Kelly Maiello Architects | **(Arora)** Arora Engineers | **(TimHaahs)** Timothy Haahs & Associates | **(Drive)** Drive Engineering | **(RIG)** RIG Consulting, Inc.

2. Management Structure

The Urban Team is comprised of project professionals and technical resources from Drive Engineering, Arora, Kelly Maiello Architects, TimHaahs, and RIG Consulting. Provided below are the profiles of the firms and some projects which highlight the qualifications of the Team members and demonstrate that the Urban Team has a strong working knowledge of all of the key elements of the Regional Traffic Management Center and Parking Structure Project.



Urban Engineers, Inc. (Urban) is a privately-owned (ESOP), multidisciplinary consulting, planning, design, construction management, and construction inspection firm formed in the United States and registered to do business in Philadelphia and Pennsylvania. Headquartered in Philadelphia since its founding in 1960, Urban provides services for transit, buildings, bridges, ports, highways, railroads, and airports. Starting with a seven-person staff, Urban has grown to approximately 450 employees. In addition to our headquarters in Philadelphia, we have regional offices in Boothwyn, Erie, Mechanicsburg, State College, and Warrendale, PA; Cherry Hill, NJ; Baltimore, MD; New Castle, DE; Hartford, CT; Los Angeles and San Jose, CA; Buffalo and New York City, NY; and Irving, TX.

For over 45 years, Urban has advanced the practice of Construction Management. With a focus on always increasing quality, our construction professionals are committed to delivering innovative, cost-effective solutions to the toughest challenges faced by public and private clients. This approach has consistently ranked Urban as an ENR Top 100 Firm and first among our clients. As leaders in construction management, our professional team is specifically trained to embrace change, technology, and available resources to guide project stakeholders in the pursuit of project success. Proactively managing time, cost, and quality, while facilitating communication and collaboration among project stakeholders, remains our top priority. Drawing upon our experience with a rich collection of projects from across the nation, we equip the owner with the understanding and competence required in today's complex built environment. Our involvement has direct impacts on lowering cost, decreasing time, and increasing quality. Urban offers services that fit our clients' needs from project inception through contract closeout; therefore, we remain our clients' first choice as partners in building project success.

Urban also offers experience with DGS projects. Recent assignments include work on the **DGS Readiness Center**, **Lincoln University Estimate Check**, **SCI Phoenix**, the **Soldiers and Sailors Home**, and the **White Haven Center Survey**.

Arora Engineers



For more than 33 years Arora has specialized in providing engineering services tailored for clients in transportation, aviation, education, and the commercial sectors. The firm has rethought the role played by a traditional MEP engineering provider and their practice has evolved to emphasize the technology that connects systems infrastructure, improves operations and longevity, and makes life safer and easier for those who use it.

Arora's comprehensive engineering practice includes oversight, project management, and design of new and existing mechanical, electrical, plumbing, fire/life safety, and special systems (security, access control, CCTV, communications, digital signage, and information technology) building and airfield systems as well as GIS. Arora also provides construction management and facilities maintenance.

Drive Engineering



A certified DBE/MBE firm, Drive Engineering has served as a leader in transportation engineering since 2010, helping to develop efficient, data driven solutions to improve mobility, operations and safety. Drive offers a complete range of services in ITS field engineering, inspections, and submittal and constructability reviews, including:

- Civil site inspection- utility clearance, conduit, junction box, minor structural assessments, clear zone and sight distance
- DMS - functionality and visibility testing; messaging testing including full color matrix and graphics
- CCTV - field functionality and F2C testing, including latency and image quality
- Detectors (radar, microwave, Bluetooth-based, E-ZPass tag readers)- speed and volume validation, F2C and ATMS integration
- RWIS, HAR, and misc. legacy device testing
- Systems Acceptance Testing and Operational and Maintenance Support Period Management (contractor coordination for client)

Drive provides a broad range of services related to Intelligent Transportation Systems from preliminary planning studies to overseeing the construction and integration of ITS devices in the field. Drive has provided ITS services within the Mid-Atlantic Region for clients including the Pennsylvania Department of Transportation, Pennsylvania Turnpike Commission, City of Philadelphia Department of Streets, Delaware Valley Regional Planning Commission, New York State Department of Transportation and the Virginia Department of Transportation.

Kelly Maiello Architects



KELLY MAIELLO ARCHITECTS

Kelly/Maiello has provided architectural and planning services in Philadelphia and the region for more than 42 years. They work with their clients to create extraordinary places that are responsive to their programmatic nuances. Kelly/Maiello is a minority-owned business certified in Pennsylvania, Ohio and Maryland. Their office of 20 professionals provides comprehensive architectural services in all phases of building design, including:

- | | | |
|------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> • Architectural design • Historic preservation and restoration • Master planning | <ul style="list-style-type: none"> • Campus planning • Project management • Adaptive reuse • Programming | <ul style="list-style-type: none"> • Interior design • Sustainable design • Feasibility studies |
|------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|

RIG Consulting, Inc.



RIG Consulting, Inc. (RIG), a certified Women-Owned Business Enterprise (WBE), is the premier construction and engineering consultant of choice across the heavy highway transportation and infrastructure markets throughout Pennsylvania and into adjoining states. We provide a wide range of services including Construction Management, Construction Inspection, Design Support, Survey, Mapping and Right of Way. Based in Pittsburgh, RIG has an extensive portfolio

partnering with numerous clients throughout the state of Pennsylvania, as well as in Delaware, Maryland, New Jersey, New York, and Ohio. To meet client needs, RIG employs a multi-disciplinary staff of professionals, including engineers, surveyors, construction managers, construction inspectors, and CADD operators, capable of meeting the challenges of everything from a short-term project to a multi-year open-end contract. RIG does so much more than satisfy DBE/DB/WBE requirements. We understand the importance of monitoring safety, meeting schedules, and operating within budget, and RIG promotes a proactive approach to all projects, striving to earn the respect of each client by providing reliable and timely services and exceptional client responsiveness.

Timothy Haahs & Associates



Timothy Haahs & Associates, Inc. (TimHaahs) understands the important role parking plays in development. A multi-disciplined engineering and architectural firm, TimHaahs specializes in planning – master planning for campuses, urban and high density areas, and transit related

projects – and providing design services for parking and mixed-use buildings. TimHaahs’ engineers, architects, planners, and parking specialists focus on parking solutions, bringing a unique perspective to our clients in private corporations, real estate, education, healthcare, government, and transit.

Construction Management Team Staff*

- Stephen Ehrlich, PE, LEED AP - Project Director ♦
- Philip Petrone, PE - Project Manager ♦
- Ryan Potts, NICET III - Assistant Project Manager ♦
- Charles Colletto, EIT - Scheduler ♦
- Moses Gaster, EIT, CEP - Cost Estimating ♦
- Peter Bobrowski (RIG) - Senior Construction Manager
- James Howley, NICEY IV - Senior Construction Manager
- TBD - QA/Testing (Post-Award)
- TBD - Commissioning (Post-Award)

TECHNICAL RESOURCES

- Allison Slizofski, PE, PTOE (Drive) - ITS ♦
- Todd Helmer, PE (T.Haahs) - Parking Garage ♦
- Mark Purcell, CCM, LEED AP, AIA (Arora) - Architectural ♦
- Ed Godorov, PE - MEP
- Mike Thomas, PE - Civil
- David Steele, PE - Structural
- TBD (Arora) - Communication/Security/Fire-Life Safety

* Resumes have been provided for staff marked with a ♦.

Stephen Ehrlich, PE, LEED AP – Project Director: Mr. Ehrlich will provide supervision as the Project Director throughout the duration of the project. The Pre-Construction Stage includes the establishment of the project team, addition of contracts for commissioning and QA Testing, establishment of communication protocols, establishment of design review flow chart and decision matrix, implementation of project controls, Project Schedule review, E-Builder submissions, and the performance of the design submission reviews and backchecks. Mr. Ehrlich will lead the team through the Pre-Construction Stage. During the Construction Stage Mr. Ehrlich will provide oversight to the Team and provide DGS with senior level quality assurance that the Urban Team is meeting DGS’ expectations.

Phillip Petrone – Project Manager: As the Project Manager, during the Pre-Construction Stage, Mr. Petrone will have direct responsibilities over the establishment and updating of the project controls for the management of the Project. During the Construction Stage Mr. Petrone will be the primary point of contact for the Urban Team. He will run project meetings and manage the Project in accordance with DGS DBC General Conditions of the Construction Contract and DBC Administrative Procedures.

Ryan Potts – Assistant Project Manager: During the Pre-Construction Stage Mr. Potts will be responsible for the E-Builder input and logs. During the construction stage, as the Assistant Project Manager, Mr. Potts will have a variety of duties including maintaining E-Builder, overseeing the coordination drawing process, working with the Urban Team's Architectural resource to manage and expedite the review of shop drawings and other submittals, reviewing the requests for changes, expediting RFI's and administrative items including Buy America provisions, certified payrolls, schedule of values, contractor invoices, employment verification forms, right-to-know requests, record drawings are up-to-date, and assist in Project Closeout – including monitoring and expediting the completion of punch list items, O&M manuals, and warranties, guarantees, and certificates.

Charles Colletto – Scheduler: As the Scheduler, during the Pre-Construction Stage, Mr. Colletto will be responsible for reviewing the Project schedule provided by the DBC and assessing if the schedule is complete, realistic, logical, and includes a reasonable duration for completion of the Project. During the Construction Stage Mr. Colletto will be responsible to review the DBC's construction schedule, continuously monitor actual progress against the Project Schedule identifying any delays and notifying DGS, and analyzing any extensions of time asserted by the DBC.

Peter Bobrowski and James Howley – Construction Managers: As the Construction Managers, during the Construction Stage Mr. Bobrowski and Mr. Howley will be responsible for Construction Progress Reporting, Construction Manager Quality Control, and Digital Construction Monitoring as described in the Request for Proposal. In addition to the reporting and QC activities listed Mr. Bobrowski and Mr. Howley will facilitate coordination, assist with the coordination of shutdowns and provide proactive construction oversight to identify potential issues and provide solutions.

Moses Gaster – Cost Estimator: As the Cost Estimator, during the Pre-Construction Stage, Mr. Gaster will review the cost estimates provided by the DBC for inclusion of all design elements, quantity takeoffs are accurate, cost escalation factors are appropriate, the balance of costs are acceptable, and overall Project costs are within cost limits. During the Construction Stage Mr. Gaster will be responsible for cost related items including review of the Schedule of Values and reviewing change order requests from the DBC.

Technical Resources

Urban Engineers is a multi-disciplined construction management/engineering firm with over 400 project professionals. The Urban Team proposed for this Project also includes the resources of Arora, Drive Engineering, Kelly Maiello, Timothy Haahs, and RIG Consulting. The committed resources are noted in the two pages of the Organization Chart. There are numerous additional available project professionals in the relevant disciplines should the Project require additional resources. Highlighted below are a few of the Team's technical resources.

Allison Slizofski, PE, PTOE – ITS/Traffic Engineer: As the ITS/Traffic Engineer, during the Pre-Construction Stage, Ms. Slizofski will participate in the Design Submission Reviews from the DBC with an emphasis on review of the ITS elements of design. During the Construction Stage Ms. Slizofski will be the subject matter expert for ITS and will assist in the oversight of the configuration, integration, and testing of a complete RTMC.

Mark Purcell, AIA, CCM, LEED AP – Architect: Mr. Purcell has a great deal of experience with DGS projects and will greatly enhance the capabilities of Arora and will be a valuable resource to the Urban Team. Mr. Purcell will participate in Pre-Construction Stage design submission reviews and will be an architectural resource through the Construction Stage.

Team Experience Working Together

The Urban Team is comprised of team members with strong working relationships from prior project experience. Urban recently completed work on SCI Phoenix a DGS Design/Build project. Urban's role was to provide an independent 3rd party QA inspection in all disciplines to help with identifying discrepancies to facilitate closing out the project. Many of the Team members were part of that effort including Mr. Ehrlich, Mr. Gaster, Mr. Potts, Ms. Palladino, Mr. Godorov, and Mr. Bobrosky of RIG Consulting.

Urban was DGS' Construction Manager for The Readiness Center at Drexel University. This is a multi-prime facility renovation project. Mr. Potts worked on this project with Kelly Maiello as the Architect.

Urban has worked with Arora on over a dozen projects at Philadelphia International Airport, Capital City Airport, and Sussex County Airport. With Mark Purcell now working at Arora that adds additional strong working relationship between the firms.

Mr. Petrone has worked with Drive Engineering on several assignments and strongly recommended their inclusion on the Urban Team.

Understanding of Services

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Experience with Design Build Contract Projects

In addition to the SCI Phoenix project the Urban Team has experience on the following Design Build projects:

- Metropolitan Nashville Airport Authority – Terminal Area Administrative Building and Parking Garage
- Port Authority of New York and New Jersey – (P3) Central Terminal Building, West Parking Garage
- PennDOT District 6-0 – I-95 Section ITB Design-Build
- US Army Corps of Engineers – Aberdeen Proving Grounds, Design-Build, three-building office campus
- Camden County Improvement Authority Parking Garage, Camden, NJ – 1,604-space mixed-use parking facility
- UPHS, 3600 Civic Boulevard, Philadelphia, PA – New 1,000-space parking garage
- New Jersey Transit Hamilton Station, Hamilton, NJ – Six-story 2066 space precast parking structure

3. Construction Management Plan

The management structure of the Urban Team provides highly skilled resources in an efficient organization with well - defined roles and responsibilities. The roles and responsibilities are aligned with the RFP Work Statement. There is continuity of key resources from the Pre Construction Stage through the Construction Stage. There are also key technical resources that are available for issue resolution throughout the Project. Provided below is a task breakdown summarizing the Urban Team's Construction Management Plan.

The Urban Team's construction management services will be provided in accordance with the following work plan.

Document Review – Upon receipt of Notice to Proceed the Urban Team will review all relevant Project documents including all DGS, PennDOT, and FHWA requirements.

Initial Orientation Meeting – Within 10 days of the effective date of the Contract will facilitate an Initial Orientation Meeting. This meeting will be held to introduce project participants and to establish the communication plan, schedule progress meetings, determine required reporting, create the submission schedule and flow of documents and reviews, review the use of e-Builder for all Project documents, discuss initial 60 day Project schedule and key milestones and deliverables.

Project Schedule – In accordance with AP-4 the DBC is required to submit the Project Schedule within 30 days of the Effective Date of the Contract. Urban's review will be in accordance with AP-4 and will be completed within the required 7 days of receipt of the schedule from the DBC.

Execute change order for Design Stage Commissioning Services – Commissioning services are to be in accordance with LEED requirements for Fundamental Commissioning and Enhanced Commissioning.

Execute change order for CM Quality Assurance

Initial Job Conference – With full team established, facilitate a full orientation meeting which updates communication matrix, project schedule, and roles/responsibilities including DGS, PennDOT and FHWA. All items noted in Administrative Procedure (AP) No. 2 Job Conferences will be reviewed and discussed. Urban will prepare meeting minutes and upload to e-Builder.

Design Stage Commissioning Services – Work with the Commissioning Agent and project stakeholders to document project goals, performance criteria, cost considerations, benchmarks, and success criteria.

Commissioning Plan (Cx Plan) – Work with the Commissioning Agent and stakeholders in their development of the Cx Plan.

Regular Job Conferences – On a bi-weekly basis Urban will facilitate regular Job Conferences to identify key action items and expedite resolution of issues. The agenda will follow AP – 2 with general information and format customized to the needs of the Project and DGS. Urban will prepare meeting minutes for all meetings and upload to e-Builder.

Submittals – The DBC is to prepare and submit through e-Builder a Draft Submittal Schedule in accordance with AP-6. It is critical that submittals be broken down by Specification Section. The Urban Team includes resources from Kelly Maiello who have a great deal of experience in the proper breakdown of submittals and will review and assist in ensuring that the Submittal Schedule is organized properly.

Schedule of Values – The DBC is required to submit the Schedule of Values for DGS approval through e-Builder within 45 days of the Effective Date of the Contract. The Urban Team will assist in the review of the Schedule of Values in accordance with AP-3.

DBC Invoice – The Urban Team will review and make recommendations on the DBC invoices in accordance with AP-7.

Design Submission Reviews – The Urban Team will facilitate and coordinate the Design Submission Reviews. Design reviews will include the input and comments from DGS, PennDOT, FHWA, and the Urban Team technical resources listed on the Organization Chart. Design reviews will emphasize the key parameters noted in the RFP and comments will be documented and tracked through e-Builder.

Construction DBC's MEP Procurements – The Urban Team will review bid packages and attend all pre-bid meetings and bid openings for HVAC, Plumbing, and Electrical work for compliance with Design – Build RFP and Separations Act.

Construction Stage

The Urban Construction Stage Team will administer the contract in accordance with DGS DBC General Conditions of the Construction Contract and DBC Administrative Procedures (AP)

Initial Job Conference – With the beginning of construction the Urban Team will facilitate a Construction Stage Initial Job Conference in accordance with AP-2. The purpose of the meeting is to establish the communication plan, e-Builder submission and project documentation, roles/responsibilities, expectations, reporting and meeting schedule. Affirm elements of the AP, including AP-8 regarding Changes in Contract Work. Review roles and responsibilities regarding project QA/QC. Urban will prepare and submit minutes of the Conference through e-Builder.

Job Conferences – In accordance with AP-2 Urban will facilitate regular Bi-Weekly Job Conferences and prepare and submit meeting minutes through e-Builder.

Project documentation and reporting – Urban will establish project documentation and reporting in compliance with FHWA and Buy America provisions, certified payroll, schedule of values, payment processing, contractor invoices, employment verification and other administrative items and procedures.

Coordination Drawings – The DBC is responsible for the preparation of Coordination Drawings. This is a vital field coordination tool which involves the cooperation of all of the Multi-primers. Coordination drawings, when completed properly, will minimize field interferences. The Urban Team will push the Primes to expeditiously complete the Coordination Drawings.

FF&E and Owner Supplied Equipment – The Urban Team will track and assist in the coordination of incorporation of FF&E and Owner Supplied Equipment into the Project.

Field Coordination and Issue Resolution – On a daily basis the Urban Team will work proactively to identify potential issues and find resolutions to keep the project running smoothly.

Mock ups, pre-installation conferences – Where appropriate the Urban Team will facilitate mock ups and pre-installation conferences for new work to be sure that the upcoming construction is in accordance with project stakeholder requirements.

Commissioning – Construction management services during the Construction Stage will include commissioning of numerous systems identified in the RFP. The Urban Team will incorporate the Cx inspections throughout the Construction Stage.

Punchlisting – Utilization/Occupancy Inspection, Final Inspection and the Conclusion of Final Inspection will be managed by the Urban Team in accordance with AP-12.

Closeout – The Urban Team will manage the closeout of the Project. Closeout will be tracked through logs in e-Builder. Urban's recent DGS project closeout has included e-Builder maintained logs for the following: Attic Stock, O&M Manuals, Project Closeout, Training, Warranties, and Punchlist.



2. Understanding the Objective

2. Understanding the Objective

1. Understanding of Design-Build Concept

The design-build (D-B) concept is a project delivery method in which the owner hires an entity, the Design Build Contractor (DBC), to be both the designer and the builder. This method is different from design-bid-build (D-B-B) concept in that with D-B-B the owner hires a designer who completes the entire design and then the owner bids the project and hires a builder who bases his bid on that design.

The D-B concept can be a more efficient project delivery method. With D-B-B the entire design must be 100% complete and all permits in place before the Builder has even looked at the plans. Then there is a bidding and procurement phase, the Builder is awarded the project, and then the Builder commences with the buy - out of the project, project submittals, purchase of long lead items, and mobilization and start of construction. This can take more time and be more costly than if the project delivery method is D-B.

With the D-B concept the owner provides a conceptual preliminary plan and the requirements (performance specifications) of the final Project. This is called the "bridging documents". The DBC provides the owner with a bid based on the bridging documents and the owner awards the contract to the DBC. The Design portion of the DBC entity is called the Retained Professional. The Retained Professional completes the design. While the design is ongoing the Build Contractor can potentially start some elements of procurement and construction, this overlap is called "fast-tracking" and can speed up the completion of the project. It also adds an element of risk if the final design changes the elements which were "fast-tracked". With the D-B concept the Builder can participate in the design process which can make the final design more constructable and less costly.

Elements of risk include:

- Fast-Tracked items end up being changed as design progresses
- The D-B concept, to be most successful, requires the owner to give the completion of design to the DBC entity without having as much control as with the D-B-B concept.
- As long as the final design meets the intent of the bridging documents the DBC can include elements in the project which the owner may not want.
- If the owner is very particular about certain elements being in the Project it is critical that the owner is very involved in the development of the bridging documents so that everything they want is included.

2. Pre-construction Phase Effort for Design-Build Concept

As provided above in the description of the Urban Team's construction management plan the following tasks will be performed in the pre-construction phase:

Document Review – Upon receipt of Notice to Proceed the Urban Team will review all relevant Project documents including all DGS, PennDOT, and FHWA requirements.

Initial Orientation Meeting – Within 10 days of the effective date of the Contract will facilitate an Initial Orientation Meeting. This meeting will be held to introduce project participants and to establish the communication plan, schedule progress meetings, determine required reporting, create the submission schedule and flow of documents and reviews, review the use of e-Builder for all Project documents, discuss initial 60 day Project schedule and key milestones and deliverables.

Project Schedule – In accordance with AP-4 the DBC is required to submit the Project Schedule within 30 days of the Effective Date of the Contract. Urban's review will be in accordance with AP-4 and will be completed within the required 7 days of receipt of the schedule from the DBC.

Execute change order for Design Stage Commissioning Services – Commissioning services are to be in accordance with LEED requirements for Fundamental Commissioning and Enhanced Commissioning.

Execute change order for CM Quality Assurance

Initial Job Conference – With full team established, facilitate a full orientation meeting which updates communication matrix, project schedule, and roles/responsibilities including DGS, PennDOT and FHWA. All items noted in Administrative Procedure (AP) No. 2 Job Conferences will be reviewed and discussed. Urban will prepare meeting minutes and upload to e-Builder.



Design Stage Commissioning Services – Work with the Commissioning Agent and project stakeholders to document project goals, performance criteria, cost considerations, benchmarks, and success criteria.

Commissioning Plan (Cx Plan) – Work with the Commissioning Agent and stakeholders in their development of the Cx Plan.

Regular Job Conferences – On a bi-weekly basis Urban will facilitate regular Job Conferences to identify key action items and expedite resolution of issues. The agenda will follow AP – 2 with general information and format customized to the needs of the Project and DGS. Urban will prepare meeting minutes for all meetings and upload to e-Builder.

Submittals – The DBC is to prepare and submit through e-Builder a Draft Submittal Schedule in accordance with AP-6. It is critical that submittals be broken down by Specification Section. The Urban Team includes resources from Kelly Maiello who have a great deal of experience in the proper breakdown of submittals and will review and assist in ensuring that the Submittal Schedule is organized properly.

Schedule of Values – The DBC is required to submit the Schedule of Values for DGS approval through e-Builder within 45 days of the Effective Date of the Contract. The Urban Team will assist in the review of the Schedule of Values in accordance with AP-3.

DBC Invoice – The Urban Team will review and make recommendations on the DBC invoices in accordance with AP-7.

Design Submission Reviews – The Urban Team will facilitate and coordinate the Design Submission Reviews. Design reviews will include the input and comments from DGS, PennDOT, FHWA, and the Urban Team technical resources listed on the Organization Chart. Design reviews will emphasize the key parameters noted in the RFP and comments will be documented and tracked through e-Builder.

Construction DBC's MEP Procurements – The Urban Team will review bid packages and attend all pre-bid meetings and bid openings for HVAC, Plumbing, and Electrical work for compliance with Design – Build RFP and Separations Act.

3. Construction Phase Effort for Design-Build Concept

The following tasks and services will be provided during the construction phase:

The Urban Construction Stage Team will administer the contract in accordance with DGS DBC General Conditions of the Construction Contract and DBC Administrative Procedures (AP)

Initial Job Conference – With the beginning of construction the Urban Team will facilitate a Construction Stage Initial Job Conference in accordance with AP-2. The purpose of the meeting is to establish the communication plan, e-Builder submission and project documentation, roles/responsibilities, expectations, reporting and meeting schedule. Affirm elements of the AP, including AP-8 regarding Changes in Contract Work. Review roles and responsibilities regarding project QA/QC. Urban will prepare and submit minutes of the Conference through e-Builder.

Job Conferences – In accordance with AP-2 Urban will facilitate regular Bi-Weekly Job Conferences and prepare and submit meeting minutes through e-Builder.

Project documentation and reporting – Urban will establish project documentation and reporting in compliance with FHWA and Buy America provisions, certified payroll, schedule of values, payment processing, contractor invoices, employment verification and other administrative items and procedures.

Coordination Drawings – The DBC is responsible for the preparation of Coordination Drawings. This is a vital field coordination tool which involves the cooperation of all of the Multi-primers. Coordination drawings, when completed properly, will minimize field interferences. The Urban Team will push the Primes to expeditiously complete the Coordination Drawings.

FF&E and Owner Supplied Equipment – The Urban Team will track and assist in the coordination of incorporation of FF&E and Owner Supplied Equipment into the Project.

Field Coordination and Issue Resolution – On a daily basis the Urban Team will work proactively to identify potential issues and find resolutions to keep the project running smoothly.

Mock ups, pre-installation conferences – Where appropriate the Urban Team will facilitate mock ups and pre-installation conferences for new work to be sure that the upcoming construction is in accordance with project stakeholder requirements.

Commissioning – Construction management services during the Construction Stage will include commissioning of numerous systems identified in the RFP. The Urban Team will incorporate the Cx inspections throughout the Construction Stage.

Punchlisting – Utilization/Occupancy Inspection, Final Inspection and the Conclusion of Final Inspection will be managed by the Urban Team in accordance with AP-12.

Closeout – The Urban Team will manage the closeout of the Project. Closeout will be tracked through logs in e-Builder Urban’s recent DGS project closeout has included e-Builder maintained logs for the following: Attic Stock, O&M Manuals, Project Closeout, Training, Warranties, and Punchlist.

4. Understanding of CPM Schedule

Urban utilizes the project Critical Path Method (CPM) schedule as an essential and critical management tool. The project CPM schedule is a logical network of activities. It includes activities, their durations and the inter-relationships between activities. The use of a CPM Schedule is central to the effective planning and execution of a well – coordinated project. Even the preparation of the Project CPM Schedule is a critical planning exercise. The best prepared CPM Schedules are compiled utilizing a team approach in a series of scheduling workshops, incorporating input from the various aspects of the project: design, construction, procurement, permitting, utilities, and other third party activities. Once developed and reviewed and approved by the Owner the schedule developed and submitted by the DBC is considered the Baseline. But the Project Schedule is routinely updated by the DBC with any new activities or revised logic throughout the course of the Project.

Urban develops and uses CPM Schedules for all of our projects. We have extensive experience in the development and use of realistic design and construction schedules. Through the use of a realistic project schedule the project team can focus on the critical path activities and manage resources properly to meet the project milestones.

We review and monitor construction schedules, including permitting, any outstanding design activities, procurement of long lead items, material supply, shop drawing submissions, product data and sample submissions, third party coordination, special inspections, commissioning and owner occupancy requirements. Construction logic must identify site access restrictions, multi-prime and trade coordination, and resource and crew restraints. Including these items in the schedule allows the Urban Team to prioritize actions and identify third party items which may affect progress.

The CPM Schedule, as a documentation of the original Baseline plan and the as-built progress on a project, is also an essential tool to help our managers and our clients sort out critical and non-critical activities, evaluate resource loading and perform “What If” and “Time-Window Based” analyses. Our scheduling experts use sophisticated methods to establish and evaluate schedule conflicts, analyze delays/acceleration, conduct productivity analysis, audit costs and determine damages.

Urban currently provides schedule review services on two federally-funded PennDOT pump station upgrade projects

5. Pre-construction Phase Issues and Mitigation Strategies

The Project will be a Design-Build concept with a DBC and built in accordance with the Separations Act utilizing multi-primers. It will be a DGS project which includes Federal Highway Administration funding and Buy America provisions. We provided above certain issues and risks that are inherent with the Design-Build concept. As discussed above Design-Build projects have the following elements of risk:

- Fast-tracked items end up being changed as design progresses
- The D-B concept, to be most successful, requires the owner to give the completion of design to the DBC entity without having as much control as with the D-B-B concept.
- As long as the final design meets the intent of the bridging documents the DBC can include elements in the project which the owner may not want.
- If the owner is very particular about certain elements being in the Project it is critical that the owner is very involved in the development of the bridging documents so that everything they want is included.

To mitigate these issues it is imperative that design submission reviews are performed with the right people and the reviewers are fully engaged.

The design submissions are to include all disciplines with design complete to the level indicated. It is often the case that the MEP design disciplines lag significantly behind the civil, architectural and structural. Then the design review occurs anyhow and the MEP disciplines are not adequately reviewed. The Urban Team will be insistent that all design disciplines have been advanced before the review is performed.

The Urban Team will be insistent that all stakeholders (DGS, PennDOT, FHWA, and the technical resources), are engaged and involved in the reviews. The Urban Team will have the Retained Professional present the design to the reviewers with each



design submission. With many stakeholders who are not designers themselves it is most helpful to have the design presented by the Professional.

The selection of members of the Urban Team was made specifically to address and mitigate potential issues. For example the integration of technology used by PennDOT is a critical element of this Project. Therefore the technical resources at Drive Engineering, who are intimately familiar with PennDOT District 6-0 ITS systems, have been included on the Urban Team.

Another potential issue in the Pre-Construction Stage is the Separations Act and the requirement for this Project to have multi-primers. The inclusion of multi-primers requires that project specifications and bid packages are written specifically for the division of scope and responsibility. The Urban Team includes Architects from Kelly Maiello and Mark Purcell who is now with Arora. They have a great deal of experience in DGS projects and the implementation of the Separations Act.

The use of e-Builder as the project management software requires knowledge of the system organization. Urban and Kelly Maiello have extensive experience with the e-Builder project management software and will mitigate this potential issue. For example, it is typical for contractors to make large submittals which cover multiple specification items. However, in e-Builder it is necessary to organize submissions by specification section. The Urban Team has a great deal of experience with e-Builder and will mitigate this issue.

6. Construction Phase Challenges and Proposed Solutions

The construction phase is the implementation of the planning and design. A well prepared design that is inclusive of the stakeholders requirements, including all third parties, will minimize changes during the construction phase. The construction planning is to include construction phase considerations of material deliveries, laydown areas, stockpiles, access, crane placement, phasing, permitting, utilities, and multi-prime coordination. Most construction phase risk occurs in the areas where there are unknowns and changes to the initial plan.

The Urban Team includes senior construction managers who are proactive in addressing issues and have the experience to anticipate where there may be challenges and how to address them. Communication is critical and Urban's construction managers establish a positive work site where the DBC is held accountable to complete the project in accordance with the contract documents and the team works together to solve issues that arise.

To maintain a high level of quality in construction the Team will use pre-installation conferences for new work and mock-ups where appropriate so that the owner and stakeholders will have the opportunity to physically see what the item of work will look like before it is installed.

The Urban Team will utilize the Fundamental and Enhanced Commissioning program and the Material Testing QA to help ensure that the Project is constructed in accordance with the contract documents.

The integration of technology is often an area during the construction phase where issues arise. The Urban Team includes professionals from Drive Engineering who are extremely familiar with the ITS systems utilized by PennDOT District 6-0.

7. Managing and Minimizing DGS' Risk

DGS has well developed General Conditions and Administrative Procedures for the management of projects. These contractual conditions are based on a significant history of project experience with the learnings incorporated into revisions. The most important way for the Urban Team to manage and minimize DGS risk on this Project is to follow the established Administrative Procedures and to hold the DBC accountable to the General Conditions.

The Urban Team is well versed in DGS procedures. We provide DGS with the additional benefit of being highly trusted and respected by PennDOT District 6-0 and FHWA. We are the go to firm for PennDOT District 6-0 for some of their most significant projects for over 30 years. These projects include the Vine Street Expressway, I-476, Route 202, Valley Forge Interchange, Route 309, and I-95. The Urban Team has earned the respect of PennDOT District 6-0 as a proactive, problem solving construction manager who represents the interests of the owner. This trust and respect will provide a strong working relationship for all of the stakeholders and will minimize the risk for DGS.

8. Understanding of Job Site Controls, Systems, and Practices

The Urban Team will utilize the job site controls, systems, and practices in accordance with DBC Administrative Procedures and enhanced with the inspection protocols required for FHWA funded projects.

All items of work will be documented on Daily Inspection Reports. Urban has performed construction inspection for

PennDOT, which has included the FHWA requirements, for over 30 years. Work items will also be documented with digital photos which are included with the reporting.

Job site controls include a daily supervisor's report which is a fact based report documenting daily activity, jobsite visitors, meetings, and communication.

Communication includes daily superintendents meetings and bi-weekly progress meetings.

Urban will prepare meeting minutes and post them in e-Builder.

The Urban Team tracks logs for RFI's, submittals and shop drawings, and change orders.

The Team manages the DBC and Multi-Prime Contractors payments in accordance with the Administrative Procedures. Costs for the FHWA portions of the Project, the Traffic Management Center, will be tracked separately from the Parking Structure.

The Urban Team project scheduler reviews and monitors the DBC's Project Schedule with each update and Bi-Weekly Progress Meeting.

9. QA/QC Plan and Integration with Design-Build Contractor's QA/QC

The Urban Team's QA/QC Plan includes Daily Inspections, Commissioning, and Quality Assurance material testing. The Urban Team's daily inspections are to provide a QA on the DBC's construction quality for adherence to contract documents. Any deficiencies that are found are tracked as quality non-conformances. Quality non-conformances are communicated to the DBC for resolution.

The DBC is responsible for Quality Control testing as required by the construction document specifications. The Urban Team will review the QC results and will provide QA testing through the CM-QA firm. The CM-QA firm will provide independent QA testing on an as needed basis as authorized by DGS.

The Commissioning Agent will be part of the CM Team and will provide additional construction QA. Their scope will include construction observation and testing, issues and resolution log, systems manual, confirmation of pre-functional and functional performance testing, training plans and records, end of warranty commissioning report, and final commissioning report.

10. Understanding of Buy America Requirements and Documentation

Buy America applies to highway construction projects that are partially or totally financed with Federal funds. Buy America requires that all manufacturing processes of steel or iron materials that are permanently incorporated into a project, including coatings, occur within the United States. Buy America requires the same documentation as the PA Steel Procurement Act.

Buy America has a minimal use provision. Foreign steel and iron materials may be used, provided the aggregate cost of the products, as they are delivered to the project, do not exceed 0.1% of the total contract amount, or \$2,500, whichever is greater. Documentation must be provided describing the steel or iron products that are made of foreign steel and their value in the form of receipts or invoices.

Waivers from Buy America requirements have been possible but experience on recent projects indicates that waivers are increasingly unavailable through the current administration.

When steel products are supplied under a contract the following information must be submitted by the contractor:

Identifiable Steel – Steel products are to contain the approved permanent marking MM-USA that identifies that the material was melted and manufactured in the US. PennDOT approved identifiable steel products (MM-USA) are referenced in their Bulletin 15. Form CS-4171 must be provided to the project inspection staff.

Steel Products with In-Plant Inspection – Fabricated structural steel that received PennDOT's in-plant inspection and inspection stamp. Form CS-4171 must be provided to the project inspection staff.

Unidentified Steel – is considered steel that is not defined in the categories above. For these products the contractor is required to submit invoices, bills of lading and mill test reports that positively identify that the steel was melted and manufactured in the United States. These are to be submitted in addition to Form CS-4171.

11. Construction Inspection and Documentation Meeting FHWA Requirements

Urban has performed construction inspection documentation for PennDOT in accordance with FHWA requirements for over 30 years. Urban's standard daily inspection reports include the elements required by FHWA 1446A (Rev. 10-89)

- Report number
- Date of Inspection
- Date of Report
- Project number
- Inspector's name
- Description of Work Inspected
- Quality of Work
- Progress of Work

Inspections include digital photo documentation. For PennDOT projects the inspection reports are posted in PennDOT's ECMS system.

The Urban Team will establish a report and report posting system that meets the FHWA requirements and includes the needs of DGS, PennDOT, FHWA and all stakeholders.

12. Technology and Integration Oversight

The Urban Team includes the resources of Drive Engineering and Arora. During the pre-construction stage the engineers from these firms will be involved in subject meetings with the DBC Retained Professional and will participate in the design submission reviews and in the review of the bid packages and specifications for the multi-prime contracts: HVAC, Plumbing, and Electrical. Their expertise and input during these reviews is critical to the completion of a well – coordinated design and bid packages.

During the construction phase the Urban Team will include these engineers as technical resources. They will be very helpful during the oversight of the preparation of the coordination drawings, as a resource for the commissioning agent, for pre-installation conferences, for issue resolution during construction, and for punchlisting and closeout.

13. Closeout

The Urban Team will manage the closeout in accordance with the General Conditions and Administrative Procedure – 12. When the DBC states that the Project is at substantial completion they submit their request for Final Inspection in e-Builder. DGS then determines within 5 days if the Project is at substantial completion. If so the Final Inspection is conducted within 10 days. There are designated representatives of the project stakeholders who are to be present and conduct the Final Inspection. With the Final Inspection a Punch List is created which captures and tracks all remaining open items, including manuals, commissioning, and pending change orders, claims, and extension of time change orders.

On a recent project closeout on a DGS project the Urban Team categorized the Punch List items and created logs of the open items to facilitate the completion. The following logs were created and tracked:

- Attic Stock
- OM Manuals
- Training Log
- Warranties Log
- Construction Punchlist
- Project Closeout Log Report

The Urban Team assigned the responsible party for each open item and pushed to complete each item and close out the project.

3. Qualifications

3. Qualifications

1. Construction Management Entity's Qualifications

a. Design-Build Experience

Project #1 - Norristown Interchange Reconstruction Norristown, PA

Urban Engineers (Urban) was responsible for construction inspection and management services for a \$17 million project to reconstruct and expand the Norristown Interchange portion of the Pennsylvania Turnpike while maintaining traffic and toll plaza operations. It involved four individual contracts for:

- General construction
- Plumbing work
- Electrical work
- Heating, ventilation, and air conditioning



Management services included scheduling, generating reports, managing project correspondence, plan verification, issue resolution, processing pay estimates, and chairing progress meetings.

The general construction contract involved staged demolition of the existing utility building and toll plaza; constructing a new two-story, 5,200 SF administration building; staged construction of a new 11-lane toll plaza with a 12,600 SF steel canopy superstructure with a standing seam metal roof; and constructing a new access tunnel underneath the toll plaza from the administration building and the toll booths. Constructing the two-story building included reinforced concrete and masonry cavity walls with structural steel framing for the precast hollow core concrete second floor planking, metal roof trusses, and a standing seam metal roof.

The remaining three contracts involved installing an oil-fired boiler and chilled water systems for service to the building, tunnel, and toll booths; an emergency generator; and a wet sprinkler and clean agent fire suppression system.

The mechanical, electrical, and plumbing services, in addition to the data and communication wiring to the new toll booths, was provided through the 220-foot-long access tunnel. The project also involved installing a highway lighting system, overhead sign structures, water main, and a sanitary pump station and force main. In addition, four E-ZPass lanes were established during phased construction. The highway lighting construction involved upgrading the existing system, which included new conduit, foundations, polls, wiring, luminaries, and power feeds.

Dates: 2004-2008
Project Amount: \$17 million
Completed on Schedule: Yes

Client: Pennsylvania Turnpike Commission
Contact: Michael J. Phillips, Senior Engineer Project Manager
(717) 645-2230

Project #2 - SCI Phoenix Prison Skippack, PA

Under an open-end construction management contract with the Pennsylvania Department of General Services (DGS), Urban assisted with the acceptance and turnover of the new State Correctional Institution (SCI) Phoenix prison. Specifically, Urban helped DGS and the Pennsylvania Department of Corrections (DOC) develop a punch list for the 1 million SF state-of-the-art institution, which was constructed under a design-build contract.

Urban collaborated with DGS, Hill International, Inc. (Hill), and Walsh-Heery Joint Venture to provide facility meeting DOC expectations. We inspected all new buildings, infrastructure, and site work for compliance with the contract bridging documents, DGS and DOC standards, industry standards, and building code requirements. Inspections covered general construction; electrical, HVAC, and plumbing systems; sitework, and other work on the 200-acre site, including landscaping and smoke control.



Urban developed a non-conformance punch list. After collaborating with DGS, DOC, Hill, and the joint venture, Urban verified completion of all work on the punch list. We used Autodesk BIM360 as a project management tool to track progress and compliance, document the deficiencies and work-in-progress, and accept or reject the work.

Dates: 2016–2017
Project Amount: \$350 million
Completed on Schedule: No*

Client: Pennsylvania Department of General Services
Contact: Dwight Hermann, DGS Coordinator
(717) 787-6609

* Urban provided inspection services on this project, and was not the construction manager.

Project #3 - Metropolitan Nashville Airport Authority - Terminal Area Parking Garage A Nashville International Airport, Nashville, TN

Under an open-end construction management contract with the Pennsylvania Department of General Services (DGS), Urban assisted with the acceptance and turnover of the new State Correctional Institution (SCI) Phoenix prison. Specifically, Urban helped DGS and the Pennsylvania Department of Corrections (DOC) develop a punch list for the 1 million SF state-of-the-art institution, which was constructed under a design-build contract.

Urban collaborated with DGS, Hill International, Inc. (Hill), and Walsh-Heery Joint Venture to provide facility meeting DOC expectations. We inspected all new buildings, infrastructure, and site work for compliance with the contract bridging documents, DGS and DOC standards, industry standards, and building code requirements. Inspections covered general construction; electrical, HVAC, and plumbing systems; sitework, and other work on the 200-acre site, including landscaping and smoke control.

Urban developed a non-conformance punch list. After collaborating with DGS, DOC, Hill, and the joint venture, Urban verified completion of all work on the punch list. We used Autodesk BIM360 as a project management tool to track progress and compliance, document the deficiencies and work-in-progress, and accept or reject the work.



Dates: 2017–2018
Project Amount: \$144.5 million
Completed on Schedule: Yes

Client: Atkins
Contact: David Schilling, PE
david.schilling@atkinsglobal.com | 615-399-0298 x4631448

b. Traffic Management Centers and Facilities Experience

Project #1 - TMC ITS Support Statewide, Pennsylvania

As part of the PennDOT District 6 ITS Integration project, Drive Engineering provided services including all aspects of TMC operational support as requested. Drive assisted with the synchronization of District and Statewide ITS inventories, and delivered upgrades and enhancements to the local District 6 database used for tracking all ITS assets.

Drive has also provided extensive data collection and analysis services for ITS asset performance and delivered monthly reports to aid District Traffic Operations leadership in identifying recurring failure points in their ITS devices. These “device uptime” reports compared contractual performance stipulations against real-life field performance, and were the result of data culled from multiple sources including PennDOT’s Advanced Transportation Management System, localized District record-keeping, and field work submissions from contracted maintenance personnel. The reports proved valuable not only for showing strengths and weakness in asset performance, but also for identifying significant data gaps that precluded PennDOT from getting a complete picture of how their network of ITS devices was actually performing.



With the advent of a new ITS maintenance contract in 2017 which contained revised language related to ITS performance measures, the reports have evolved into an assessment of contractor performance. PennDOT personnel and ITS maintenance contractors have begun exchanging critical ITS maintenance information under the umbrella of the PennDOT Project Collaboration Center (PPCC) system. Specific performance benchmarks have been established for the contractor to acknowledge device trouble reports, diagnose the problem(s), and complete repairs to restore the device to full operation. By collecting data from the PPCC, Drive is able to compile accurate reports that provide a clear snapshot of contractor performance that demonstrate levels of compliance with contracted performance measures. These reports are used by District Traffic Operations leadership to decide what (if any) financial penalties may be assessed against the contractor for failure to respond, diagnose, and repair ITS device failures in a timely manner.

Dates: 2015–2018
Project Amount: \$2 million
Completed on Schedule: Yes

Client: Pennsylvania Department of Transportation, District 6-0
Contact: Manny Anastasiadis
 610-205-6590

Project #2 - Traffic Operations Center, “G” and Ramona Streets Philadelphia, PA

The City of Philadelphia Streets Department, Traffic Operations Center (TOC), located in the City’s Traffic and Sign Shop at “G” and Ramona Streets, will give the Streets Department the ability to monitor and control various signalized intersections at strategic locations throughout Philadelphia. The City has approximately 3,000 signalized intersections in its jurisdiction. Arora provided professional engineering services for the mechanical, electrical, and plumbing systems (MEP) for the center, as a subconsultant to Jacobs.



Arora provided feasibility services at various city locations and provided recommendations used in the review process, which ultimately led to the selection of the preferred site at “G” and Ramona Streets. Arora surveyed the building and existing conditions, prepared conceptual designs, and developed final construction documents, continuously working collaboratively with all stakeholders, including the City of Philadelphia, the Pennsylvania Department of Transportation (PennDOT), the Federal Highway Administration (FHWA), and all members of the design and construction teams.

The scope of work included:

- Creation of Philadelphia’s first new state-of-the-art Traffic Operations Center
- Relocation of an existing locker room
- Upgrading existing toilet rooms to provide for the Americans with Disabilities Act (ADA) requirements
- Providing new generator and UPS systems for the center and providing redundancy case of power failure

Dates: 2011–2015
Project Amount: \$2 million
Completed on Schedule: yes

Client: City of Philadelphia, Streets Department
Contact: Richard Montanez, PE
 richard.montanez@phila.gov | 215-685-1207

Project #3 - Burlington County Closed Loop Phases II, III and IV and Traffic Management Center Philadelphia, PA

Urban completed the design and integration of 57 signals countywide along a series of corridors that are included in the overall county signal system. Urban determined optimal timing plans and traffic responsive thresholds to maximize capacity and operations.



The design effort included the development of traffic signal plans, electrical plans, interconnect plans, fiber optic details, and specifications for the successful system. The system used a central computer system evaluating real-time data from system detectors to match the traffic conditions to the correct timing sequence.

After a series of communications alternatives were analyzed the entire system was switched to a fiber optic backbone.

The closed loop system included local controllers, master controllers, communications cables, computers and peripherals, closed loop software, communications server, and network software. Spread spectrum radio communications medium was evaluated to establish communication links between the local and master controllers, and between the master controllers and central location. System testing procedures required to be performed during and after system installation were defined. The system testing procedures are intended to check that system elements meet the specifications and are properly integrated to achieve a fully successful operating closed loop system.

Urban provided input with regard to the size and orientation of the TMC operator control room form and function, emergency operations room, computer and communication equipment rooms, conference rooms, media room, maintenance offices and facilities, etc. This included such equipment as operator consoles and workstation computers, video wall size and position, and associated furnishings. Special attention was given to the allocation of space between the occupants, adjacency and function of each room, control room layout, cabling duct design, heat dissipation requirements, and power requirements.

In addition to the intersection and system design this project also included extensive data collection, including manual turning movement counts and Automatic Traffic Recorders, a deficiency analysis, an accident analysis at every intersection, preparing ITS reports and ITS Architecture analyses, and coordination between Burlington County, NJDOT and New Jersey Turnpike Authority.

Dates: 2005-2007
Project Amount: \$7 million
Completed on Schedule: Yes

Client: Burlington County, NJ
Contact: Martin Livingston, PE
856-642-3720

c. Federal-aid Experience

Urban has provided inspection and documentation on Federal-aid projects utilizing FHWA funds for over 30 years. The following are a few such projects in the PennDOT District 6-0 area:

Project #1 - U.S. 202, Section 320 Improvement Project Chester County, PA

The Pennsylvania Department of Transportation (PennDOT) is preparing U.S. 202 - a two-lane highway through Chester County, PA - to better handle current and projected traffic. Improvements to Section 320, the third of four U.S. 202 construction contracts, entailed four miles of roadway reconstruction and widening to three lanes with a shoulder; construction of a one-mile C/D lane; and reconstruction of two bridges. Noise walls, retaining walls, stormwater basins, drainage systems, and intelligent transportation systems (ITS) were also installed.

Urban provided construction inspection services for this \$105 million project, which occurred over five construction stages, including nightwork. Two lanes of traffic were maintained in both directions during rush hours. Our team included about ten inspectors overseeing structure, roadway, and ITS work, which included installation of junction boxes, controller cabinet pads, PVC conduit, and DA and TR cabinets and pedestals, along with the excavation of Type I trench. Wetland and mitigation site work was also required to meet National Pollution Discharge Elimination System permit requirements.

We provided oversight and inspection for as many as six separate contractors/subcontractors with staff of up to 50 on-site at a given time. In addition, our Construction Manager assisted the contractor with scheduling.



Dates: 2011-2016
Project Amount: \$105 million
Completed on Schedule: Yes

Client: Pennsylvania Department of Transportation, District 6-0
Contact: Harold Windisch, PE - Project Manager
(610) 205-6692

Project #2 - SR 309, Section 101 Construction Management Montgomery County, PA

Construction management services for this high-profile project were provided by Urban Engineers to help PennDOT avoid and resolve potential conflicts before they impacted the project. Running through six townships, the SR 309 corridor improvement project required an extensive community relations effort. Since SR 309 interfaces with the Turnpike at one end and has both SEPTA and Conrail trains running above it at various points, the Urban Team knew that keeping in close contact with these and other affected agencies would be a key to the successful completion of the project. Urban's working relationships with its other clients, including SEPTA, Norfolk Southern (Conrail), and the Pennsylvania Turnpike Commission, were a great benefit to the 309 project.

Originally designed in the mid 1950's, SR 309 was not built for modern traffic conditions, and accident rates exceeded those of similar highways. Projections indicated that traffic volume would increase at an average of one percent per year, potentially making the situation even worse.

New design efforts to eliminate existing weave conditions by relocating ramps, adding a new collector/distributor road, providing additional lanes, and adding shoulders to this roadway were measures that were proposed to make the highway safer. Off-site improvements, such as the addition of turning lanes and roadway widening, would also help.

Another element of this project was maintenance and protection of traffic. During the five major stages required for widening and reconstruction, two lanes of traffic were maintained in each direction. The temporary widening and reconstruction of shoulders allowed for this sort of maintenance and protection effort. In some cases, elimination of guide rails was necessary. Detailed constructability reviews of the phasing and staging allowed Urban to have confidence in the feasibility of this plan.

Careful coordination of these improvements was accomplished with a master schedule and a detailed Critical Path Method schedule. Summary level construction schedules for each section were incorporated into the master schedule. Scheduling took into account the various off-site improvements.



Dates: 1999-2011
Project Amount: \$170 million
Completed on Schedule: Yes

Client: Pennsylvania Department of Transportation, District 6-0
Contact: Harold Windisch, PE - Project Manager
(610) 205-6692

Project #3 - I-95/I-276 Connection Project Bucks County, PA

Urban Engineers was retained by the Pennsylvania Turnpike Commission (PTC) for construction management of the I-95/I-276 Connection Project, one of the most challenging infrastructure projects undertaken in the mid-Atlantic region. Construction involves two of the east coast's most important transportation arteries: the Pennsylvania Turnpike (Turnpike) and I-95. The project includes constructing a new interchange; widening the mainline Turnpike from four to six lanes between the Philadelphia Interchange (MP28/351) and the Delaware River Bridge; constructing a new mainline toll plaza; and widening I-95 to accommodate ramps, merge lanes, and increased traffic resulting from the interchange. When finished, the newly constructed interchange will establish a direct connection between the Turnpike and I-95, finish the last section of the I-95 Interstate System, reduce traffic on local roads, increase the capacity of the Turnpike and I-95, and improve travel time. The \$700 million project is anticipated to be performed over a 10-year period and include up to 10 construction contracts.



The Urban Team acts as the single point-of-contact for issues regarding stakeholder coordination. The Team is responsible for providing overall project construction management services, including coordination during design for constructability reviews, maintenance and protection of traffic planning, project staging, and schedule development. During construction, the Urban Team manages field construction activities through the assignment of the project's Resident Engineers. Urban also



provides fiscal management support, development of a public relations program, quality assurance oversight, monitoring of maintenance and protection of traffic implementation, issue resolution, and third-party agency coordination.

As part of the first phase of the project, the PTC is relocating its Trevoise Maintenance Facility to make room for the widening of I-276 leading to the new I-276/I-95 interchange. Urban is providing construction management oversight on a \$17 million contract to construct a new maintenance facility, adjacent to the existing facility, which includes six new buildings. The project is designed to comply with a Certification Level according to the U.S. Green Building Council's Leadership in Energy & Design (LEED) Rating System. The new buildings are being constructed on the existing available property, while the PTC maintains full operations from the existing facilities. The work is being completed in four separate construction phases, which requires significant coordination and planning for temporary relocations for communications equipment, fueling facilities, and maintenance operations.

The contract work includes the demolition of the existing maintenance building, salt shed, and fueling station, with the removal and disposal of the existing underground storage tanks and related hazardous/contaminated wastes and soils. The work also includes site improvements, including utilities, lighting, paving, fencing, and landscaping. Urban performed constructability reviews, preliminary schedule development, specification reviews, and agency coordination during the design phase and construction management during the construction phase.

Dates: 1999-2011
Project Amount: \$170 million
Completed on Schedule: Yes

Client: Pennsylvania Department of Transportation, District 6-0
Contact: Harold Windisch, PE - Project Manager
(610) 205-6692

d. Statement of Readiness and Commitment of Resources

Urban confirms the persons identified on the Organization Charts will be committed to the project for the time periods required.

2. Construction Management Team's Personnel Qualifications

The following section provides the qualifications of the Key Personnel of the Urban Team. The names and Project titles are provided below:

- Stephen Ehrlich, PE, LEED AP – Project Director
- Phillip Petrone – Project Manager
- Ryan Potts – Assistant Project Manager
- Charles Colletto – Scheduler
- Peter Bobrowski – Senior Construction Manager
- James Howley – Senior Construction Manager
- Moses Gaster – Cost Estimator
- Allison Slizofski, PE, PTOE – ITS/Traffic Engineer
- Mark Purcell, AIA, CCM, LEED AP – Architect

Resumes of these Key Personnel are provided on the following pages. Please note the following items of experience highlighted in the RFP:

Overseeing Buy America documentation and compliance

Phillip Petrone, the Urban Team's Project Manager has recent experience managing the documentation and compliance with Buy America on the Pump Station Modernization project that he is managing for PennDOT.

Construction Inspection and Documentation

Urban has been inspecting and documenting PennDOT projects and FHWA funded PennDOT projects for more than 30 years. The Department's inspection procedures incorporate the FHWA inspection requirements provided in Form FHWA 1446 A. James Howley, Senior Construction Manager, has over 25 years of experience in inspection and documentation in accordance with FHWA 1446 A and PennDOT procedures.

Technology Integration

The Urban Team specifically included Allison Slizofski, PE, PTOE, and Drive Engineering to provide technology integration expertise. Please note the numerous projects that Ms. Slizofski has successfully completed with PennDOT District 6-0 which include extensive integration of technology.



Stephen Ehrlich, PE, LEED AP

Project Director

Stephen Ehrlich has successfully managed hundreds of construction projects from design through project closeout. His experience includes award winning, complex, signature projects in many areas; including aviation, rail & transit, high rise buildings, petrochemical facilities, heavy highway, site development, marine, and environmental investigation and remediation. He is the Director of the Facilities Construction Management and Aviation Services group at Urban, where he uses teaming and a proactive approach to successfully manage projects to the clients' satisfaction.

Years of Experience

33

Education

- BS, Civil Engineering, University of Pennsylvania, 1985

Registrations

- Professional Engineer: CT, MD, PA, TX
- LEED AP

Associations

- Construction Management Association of America (CMAA) Board Member
- American Association of Airport Executives (AAAE)
- Urban Land Institute
- American Society of Civil Engineers (ASCE)
- American Council of Engineering Companies (ACEC)

✓ **e-Builder Software**

✓ **Buy America Experience**

✓ **Federally funded projects**

Selected Project Experience

Phoenix State Correctional Institute, Department of General Services, Skippack, PA

Steve was Urban's Project Director in providing the Department of General Services with third party quality assurance and construction management services. PA DGS selected Steve and the Urban team due to a strong working relationship and reliability in Urban's field inspection program. Urban is providing the DGS with third party inspections to close out this project which was DGS' largest project. Construction cost is more than \$300 million (2016-2018)

Readiness Center, PA Department of General Services, Philadelphia, PA

Steve is Urban's Project Director for the owner's representative construction management of the renovations to the Readiness Center (Armory) on Drexel University's campus in University City. This project is multi-prime and is phased to accommodate the numerous ROTC, National Guard, and university uses of the building.

C4ISR Relocation to Aberdeen Proving Grounds, Aberdeen, MD

As Project Manager, Steve led Urban's multidisciplinary team in providing support for the Garrison in managing the \$1.8 billion in construction occurring at Aberdeen Proving Grounds through the year 2011. Urban was part of the C4ISR project team that was awarded the Army Corps of Engineers (USACE) Project Delivery Team of the Year Award for 2011. Urban was responsible for design and construction management support for the Garrison. Design reviews included site/civil, structural, MEP, architectural, environmental, and constructability. Urban has reviewed and commented on eight different projects totaling more than \$800 million in construction costs. Design support has included an adaptive reuse design to accommodate a phased move-in; warehouse structural evaluation; traffic impact analysis; numerous construction cost estimates for adaptive reuse of a courthouse, barracks conversion, and multibuilding personnel moves; and location of a fire training facility. Construction management support has included participating in construction logistic meetings, progress meetings, and program management oversight meetings. Urban had full time onsite construction managers providing daily support to C4ISR and the Garrison in overseeing construction of Phase II projects. Urban served as the owner's representative project manager for the JSEC Facility, C2CNT East Facility, C2 Integration Facility, 5100 Building Adaptive Reuse, and Consolidated North Projects. Responsibilities included representing G4 at the construction progress meetings; resolving project issues; coordinating changing mission requirements with facility construction;

coordinating tenant relocation; construction inspections and punchlists; furniture coordination; Red Zone meetings; coordinating construction with ongoing Garrison operations; and coordinating with USACE. (2007–2016)

Comcast Technology Center, Liberty Property Trust, Philadelphia, PA

Steve was the Project Director for Urban's Special Inspection services during construction of the \$1.2 billion Comcast Innovation and Technology Center, now the tallest building in Philadelphia. Featuring a glass-enclosed indoor plaza and lobby concourse with direct, underground access to rail transit (Suburban Station), the 59-story, 1,121-foot-tall Center is poised to become a prime location for technology startups. The Center encompasses 1.8 million GSF, with space for Comcast offices and amenities, Philadelphia NBC 10 and Telemundo 62/WWSI, and a 5-star, 222-room Four Seasons Hotel, which will be located on the top floor. Urban's Special Inspection and Quality Assurance services covered the entire structural core, including structural steel, masonry and concrete, soils and foundations, and fire-resistant construction. (2016–2018)

Dilworth Plaza Improvements, Center City District, Philadelphia, PA

Urban was the program manager for the Center City District's \$45 million renovation of Dilworth Plaza and Steve was the Lead Construction Manager for the design phase of this high-profile project adjacent to City Hall. The project modernized the design of the busy plaza providing an intricate, computerized, fountain feature, structural glass stairway pavilions, a café, extensive granite block paving, and landscaping. Construction included complex coordination with SEPTA and the City. The roof above the SEPTA Broad St. Subway and Market-Frankford Line were demolished and reconstructed to accommodate the complete renovation of the fare lines and plaza level. The existing multi-tiered configuration of the plaza with large openings, stairwells, and walls was reconstructed as a single-level plaza with glass pavilions, fountains, café, and lawn space. The project transformed the plaza space in a highly visible and central area of the City. (2016)

US Airways New Ground Support Equipment Facility, Philadelphia International Airport (PHL), City of Philadelphia, Division of Aviation, Philadelphia, PA

Urban was the construction manager for the design and construction of an award winning new ground service equipment facility for US Airways. Urban provided preconstruction and construction phase construction management services. Steve was Urban's Project Manager. The project received an American Council of Engineering Companies' National Honor Award for

engineering achievement. The new building is a two-level ground service equipment facility consisting of 56,560-SF of gross building area including 16 working bays, welding and machine shop, wash bay, body shop and paint booth, two-level stock room, two receiving bays, vehicle lifts, overhead cranes, fluid and waste transfer systems, automotive parts storage, administrative and support space, and associated parking and utilities. The maintenance building has been certified in accordance with the US Green Building Council's Leadership in Energy and Environmental Design (LEED) rating system as LEED Silver. The project required close coordination with US Airways as the owner supplied various pieces of shop equipment, data system, communication system, security system, and furnishings during the construction phase. (2011)

Public Safety Services Complex, Department of Public Property, City of Philadelphia

Steve was Urban's project manager on the team that was selected to provide program management for this \$250 million complex on Market Street. Urban provided zoning and traffic impact analysis for this project.

Honeywell Facility Service Upgrades, Honeywell Plant, Philadelphia, PA

Steve provided constructability support to Urban's design of new natural gas piping through the Honeywell plant. Urban designed the new service line and pipe racks which provided upgraded natural gas supply throughout the plant. Work was coordinated with plant shutdowns and included all new service from the street to 5 buildings, from one end of the facility to the other.

Energy Saving Company (ESCO)/Guaranteed Energy Savings Agreement (GESA) Review, Pennsylvania Department of General Services, Harrisburg, PA

Steve was Urban's Project Manager for a confidential review of one of the client's energy saving projects and the client's contract structure for future energy saving projects. Urban's recommendations from this project review are being incorporated by the client into future contracts. (2012)

500 Walnut Street, Scannapieco Development, Philadelphia, PA

Steve was Urban's Project Director in providing Scannapieco Development with special inspections for this signature high rise condominium tower near Independence Hall in Old City Philadelphia. This condominium project was noteworthy in being the highest priced condominiums in Philadelphia. Urban was entrusted with the inspections of these luxury units.



Philip Petrone, PE

Project Manager

Phil M. Petrone, PE, has 14 years of experience in the construction and transportation industries. His expertise includes design management, transportation and civil engineering, inspection services, construction management and surveying. Phil's background consists of construction management and inspection services; design-build; highway design including roadway geometry, roadway modeling, right of way, utility coordination, drainage and stormwater management; and erosion and sedimentation control. He has experience in surveying, including topographic survey, horizontal control, vertical control and electronic data collection, for various highway and land development projects. In addition, his skills include traffic control, pavement design, pavement marking and signing and the development of final plans, specifications and estimates (PS&E) packages. Phil's specialized computer skills include InRoads, GEOPAK, MicroStation and AutoCAD.

Years of Experience

16

Education

- Course Work, Widener College

Registrations

- Professional Engineer, DE
- Professional Engineer, NJ
- Professional Engineer, PA

Selected Project Experience

I-95 Pump Station Reconstruction Projects, PennDOT District 6-0, Philadelphia County, PA

Under a construction management open-end agreement with District 6-0, Urban provided CPM schedule reviews for the \$18.9 million reconstruction of five pump stations which help prevent flooding on I-95 and I-676 in Philadelphia County. Work was completed under four contracts (general civil, mechanical, electrical, and plumbing) by a sole contractor. To help PennDOT manage these projects, Urban's scheduler merged the four separate CPM schedules into one master CPM schedule. All contracts were fully federally funded. An underpass lighting system for I-95, near Dock Street was also reconstructed. The pump stations are located at I-676 at the intersection of 10th and Winter streets; I-676 at 22nd Street; I-95 at Dock Street; I-95 southbound off ramp at Christopher Columbus Boulevard; and PA 413 and US 13 in Bristol Township, Bucks County. Work involves replacement of all pump station equipment.

SR325 Section MIT, PennDOT District 6-0, Delaware County, PA

Urban is providing construction management services during development of the site for a new two-acre PennDOT District 6-0 maintenance facility in Delaware County, PA. The maintenance facility will include a foreman office and truck washing, salt storage, and brine mixing buildings as well as three equipment and material storage buildings. This federally funded project, valued at \$7.3 million, entails site grading, installation of utilities; relocation of 1,000 feet of Station Road to align with a signalized intersection; and construction of a wetland habitat, including a basin and plantings, to mitigate wetland impacts from construction of the SR 322 corridor. A new precast arch culvert is also being constructed over the tributary of Webb Creek. The project involves one prime contractor and 21 subconsultants performing construction in a single stage, with one traffic detour. Working within wetlands and close to the protected tributary of Webb Creek pose logistics challenges. To reduce PennDOT's risks, Urban and our subconsultants review the prime contractor's CPM schedule updates and monitor delays, in preparation to help negotiate a time extension between PennDOT and the contractor. The construction management team is using PennDOT Project Office Manual Pub 2 for all documentation, which meets FHWA requirements.

Construction Management Agreement, SR 322 Reconstruction, PennDOT District 6-0, Delaware County, PA

Project Manager. This agreement consists of providing Construction Management services for the widening and total reconstruction of approximately 6.3 mile long regional arterial between US Route 1 in Concord Township and the CSX bridge in Upper Chichester Township. The project is divided into three construction sections consisting of the following; Section MIT, \$7.3 million, this project includes the relocation of Station Road; the construction of a wetland mitigation site on the former Patterson Tract in Thornbury Township, and site work associated with the future relocation of the Department's maintenance facility at SR 322 and SR 261. The maintenance facility site work will involve development of the new site with grading, utilities, parking and other miscellaneous construction. Section 101, \$62.7 million, this project involves widening SR 322 from two lanes to a four lane typical section with a median barrier from US Route 1 in Concord Township to east of Mattson Road/Featherbed Lane near Clayton Park and the Bethel Township line. Intersection improvements will include the following: Reconstruction of existing traffic signal at US Route 1 and construction of additional auxiliary turn lanes. Elimination of through and left turn traffic movements on Spring Valley Road and left turn traffic movements on SR 322. Reconstruction of the existing traffic signal at Fellowship Road/Station Road Connector and reconstruction of Fellowship Road intersection to accommodate 4 lanes on SR 322 and a turn lane on Station Road Connector. Elimination of left turns from and into Station Road (SR 3025). Construction of a jughandle and a new traffic signal at Cambridge Drive intersection. Construction of a new traffic signal at Mattson Road/Featherbed Lane. The bridge over SEPTA/Webb Creek and the bridge over Smith Bridge Road will be replaced. Sound barriers and retaining walls will also be constructed in this section. Section 102 is currently in final design and involves widening and improving SR 322 to a four lane typical section with a median barrier from east Mattson Road/ Featherbed lane near Clayton Park and the Concord Township/Bethel Township line through Bethel township to just west of the CSX bridge in Upper Chichester Township. The existing two lane section of SR 322 will be widened to 4 lanes with a combination of jughandles and exclusive left turn lanes to accommodate left turns at intersections between Chelsea Parkway and Cherry tree Road a fifth center lane will accommodate left turns into and out of adjacent commercial properties of Market Street interchange to a partial cloverleaf configuration including two new traffic signals. Construction of a new traffic signal at SR 322 eastbound ramps and Garnet Mine Road intersection. Elimination of left turns from and into Colonial Drive. Reconstruction of existing traffic

signal a Bethel Road Connector and left turn lanes on SR 322. Including construction of a new traffic signal a Bethel Road Connector and left turn lanes on SR 322. Reconstruction of Market Street (SR 452) interchange to a partial cloverleaf configuration. His responsibilities included the oversight of the construction management staff responsible for monitoring the project schedule and documenting progress; chairing progress meetings and writing correspondence minutes; preparing letters for PennDOT signature; making recommendations for problem resolution; reviewing design revisions; tracking submittals and correspondence; and coordinating updates for project website and responses to public inquiries with PennDOT's Press Office. (Urban Engineers, Inc: 11/16 - Present)

PennDOT District 6-0, Construction Management Agreement, SR 676 Section PAB Reconstruction, Philadelphia, PA

Project Manager. This agreement consists of providing Construction Management services for the SR 0676 Section PAB. This \$81.2 million project involves the replacement of seven existing bridge superstructures carrying 22nd Street, 21st Street, 20th Street/Benjamin Franklin Parkway, Free Library Pedestrian Bridge, 19th Street, Family Court Pedestrian Bridge, and 18th Street over the Vine Street Expressway (SR 676) in the City of Philadelphia. Associated work includes new bridge approach paving; landscaping improvements; new traffic signals; new highway lighting; new drainage; ITS elements; new pavement markings and signing; and other miscellaneous construction. His responsibilities included the oversight of the construction management staff responsible for monitoring the project schedule and documenting progress; chairing progress meetings and writing correspondence minutes; preparing letters for PennDOT signature; making recommendations for problem resolution; reviewing design revisions; tracking submittals and correspondence; and coordinating updates for project website and responses to public inquiries with PennDOT's Press Office. (Urban Engineers, Inc.: 11/16 - Present)

Municipal Engineer, Delaware County, PA

Phil was part of the Municipal Engineering Department that provided engineering services to various municipalities in Delaware County. Phil's responsibilities included reviews of proposed land development projects for conformance with local codes. Phil also assisted with the preparation of various bid packages for municipal contracts. (Stantec formally Brandywine Valley Engineers: 06/02 - 04/03)



Ryan Potts

Office Engineer

Ryan Potts is a skilled and knowledgeable construction manager with 12 years of construction management/inspection experience. He holds multiple certifications specific to the construction industry, construction materials testing, and special inspections. Ryan's diverse construction experience, combined with a strong understanding of project management, construction management, inspection, and testing of materials for transportation, commercial, and residential projects is an asset to any project.

Years of Experience

12 (3.5 with Urban, 9 with others)

Education

- Electrical Trades, Burlington County Institute of Technology, 2004

Registrations

- NICET Level III Highway Construction
- NJSAT Asphalt Paving Technologist
- OSHA 40 Hour
- OSHA 8 Hour Refresher
- NICET Level I Soils
- NICET Level I Concrete
- NICET Level I Asphalt
- Nuclear Moisture Density Gauge Safety
- Training
- ICC Sprayed-Applied Fireproofing
- Special Inspector
- FACE F-Number Measurement
- Aerial Work Platform

✓ **e-Builder Software**

✓ **Buy America Experience**

✓ **Federally funded projects**

Selected Project Experience

Rehabilitate Lancaster Avenue National Guard Readiness Center, PADGS, Philadelphia, PA

Construction Manager. This \$18 million project entailed rehabilitation of an 85,000 SF Pennsylvania National Guard Readiness Center for the Pennsylvania Department of General Services (PADGS). The Center is used by Drexel University. The entire building's exterior was rehabilitated, including masonry repair and cleaning and installation of a new roof, windows, and doors. Interior work consisted of installing new HVAC, electrical, plumbing, telecom, and fire alarms systems; bathroom renovations; offices and small Drill Hall/Squad Room; and architectural improvements to selective ceilings, walls, and floors. ADA accessibility improvements were also completed throughout the center.

Ryan acted as the liaison between four prime contractors, the design professional, and the owner. He coordinated RFIs and submittals with the designer and prime contractors; managed bi-weekly job progress meetings; and conducted thorough change order reviews.

Frankford Market Line Haunch Repairs Phase III, SEPTA, Philadelphia, PA

Resident Engineer. This \$1.7 million project involved installation of concrete haunch bearing repairs at locations along the Market-Frankford elevated rail line. The repairs were located between Filmore and Pratt Streets in the north lane of Frankford Avenue. Work included removing and replacing deteriorated concrete and furnishing and installing steel side plates, along with connection components.

Ryan was the onsite liaison between the general contractor and client. His responsibilities included coordinating all drawings with work performed in the field and discussing any changes required with all parties. He maintained project measurements and calculations of work completed, processed payments, managed progress meetings and scheduling, and confirmed adherence to project specifications. (6/2017 - Present)

500 Walnut, Scannapieco Development Corporation, Philadelphia, PA

Senior Inspector. This new \$180 million luxury residential tower overlooks one of America's most historic sites - Independence Hall. 500 Walnut is a 26-story concrete building with 38 individual condos ranging from \$2.5 million to a \$17.6 million, two-level penthouse. Ryan was responsible for the overall scheduling and delivery of inspection services, including concrete reinforcement inspection, concrete material testing, floor levelness/floor flatness, applied fireproofing, and steel inspection. (4/2016 - 4/2017)

Comcast Innovation and Technology Center, Liberty Property Trust, Philadelphia, PA

Senior Inspector. This \$1.2 billion, second building in Comcast's urban campus is 59 stories and 1,121 feet tall. The center contains 1.8 million GSF to provide for Comcast's office and amenity space, the local Philadelphia NBC affiliate (NBC10) and a full-service, 5-star Four Seasons Hotel containing 222 guestrooms, spa/pool, banquet/meeting facilities, and two restaurants, one located at the top of the building. Ryan was responsible for scheduling and overall delivery of special inspections services for concrete reinforcement inspection, concrete material testing, floor flatness/floor levelness, and spray-applied fireproofing. (11/2015 - Present)

Widening of Milepost 42.3 to Milepost 47.8, Contract No. P200.255, Garden State Parkway, City of Port

Inspector. This \$38 million contract involved widening the Garden State Parkway mainline with a third travel lane in each direction. The project included the rehabilitation and extension of two bridges, installation of missing ramp movements at Interchange 44, relocation of utilities, and the extension of stormwater management facilities.

Ryan was responsible for in-situ materials testing; daily field measurements, and calculating; and verifying, documenting, reporting, and processing payments for contract work. He also performed material field and plant inspections for concrete and asphalt. He observed contract work to ensure conformance to drawings, specifications, and standards.

Construction items included 184,000 CY of earth work, 42,000 SY of recharge swales, 166,000 pounds of reinforcing steel, 6.4,000 SF of sheet piling, 390 LF of drilled shaft foundations, 10 structural steel cantilever and overhead span sign structures; 500 LF concrete median barrier; 5,100 LF of RCP and 42 drainage structures, 2,200 LF pipe liner, 267K SY of variable depth milling, 177,000 tons of bituminous concrete pavement, and 46,000 LF of beam guiderail. Spall and structural steel repairs, high performance concrete, self-consolidating concrete, signage, delineations, lighting, landscaping, and maintenance and protection of traffic were also required. (10/2014 - 11/2015)

Widening of Milepost 38 to Milepost 41, Contract No. P200.254, Garden State Parkway, City of Pleasantville and Galloway Township, Atlantic County, NJ

Inspector. This \$41 million contract involved the widening of the Garden State Parkway mainline with a third travel lane in each direction. The project included the rehabilitation and extension of six existing bridges,

relocation of existing utilities, and the extension of existing storm water management facilities. Ryan was responsible for in-situ materials testing, daily field measurements, and calculating, verifying, documenting, reporting, and processing payments for contract work. He observed contract work to ensure conformance to drawings, specifications, and standards. (11/2014 - 11/2015)

Resurfacing of Milepost 0 to 48 and Pearl Harbor Memorial Turnpike Extension, Contract No. P200.254, New Jersey Turnpike, Various Locations, NJ

Inspector. This \$4.25 million contract throughout multiple municipalities on the New Jersey Turnpike involved removal and replacement of existing asphalt with new asphalt. Ryan was responsible for in-situ materials testing, daily field measurements, and calculating, verifying, documenting, reporting, and processing payments for contract work. He also performed material field and plant inspections for concrete and asphalt. He observed contract work to ensure conformance to drawings, specifications, and standards. (5/2013 - 11/2013; 5/2015 - 6/2015)

Charles Colletto

Scheduler

Charles Colletto is an experienced Construction Engineer, Scheduler and Project Control Engineer. He has provided project scheduling services for New Jersey Transit, City of Philadelphia, and PECO Energy Company, and PennDOT. Charles's scheduling services have included developing and maintaining project schedules; integrating various contracts involved into one project schedule to review that all interfaces, project milestones, and contract durations support the overall project; and analyzing a master schedule. In addition, he is proficient with various software programs for word processing, spreadsheets, presentations, communication, scheduling, and PC utilities. He has set up small peer-to-peer Local Area Networks.

Years of Experience

42 (17 with Urban; 25 with others)

Education

- BS, Civil Engineering, University of Delaware
- Certificate, Project Management in P6, Oracle University

Registrations

- Certified Estimating Professional (CEP)
- Engineer-in-Training (PA)

Associations

- Association for the Advancement of Cost Engineering (AACEI)

✓ Buy America Experience

✓ Federally funded projects

Selected Project Experience

I-95 Pump Station Reconstruction Projects, PennDOT District 6-0, Philadelphia County, PA

Under a construction management open-end agreement with District 6-0, Urban provided CPM schedule reviews for the \$18.9 million reconstruction of five pump stations which help prevent flooding on I-95 and I-676 in Philadelphia County. Work was completed under four contracts (general civil, mechanical, electrical, and plumbing) by a sole contractor. To help PennDOT manage these projects, Urban's scheduler merged the four separate CPM schedules into one master CPM schedule. All contracts were fully federally funded. An underpass lighting system for I-95, near Dock Street was also reconstructed. The pump stations are located at I-676 at the intersection of 10th and Winter streets; I-676 at 22nd Street; I-95 at Dock Street; I-95 southbound off ramp at Christopher Columbus Boulevard; and PA 413 and US 13 in Bristol Township, Bucks County. Work involves replacement of all pump station equipment.

US Route 202, Sec. 3RR Reconstruction, PennDOT District 6-0, Chester County, PA

Senior Schedule Engineer. Responsible for a \$26.4 million project to rehabilitate the US 202 bridge over AMTRAK and business US 030. This project involves the rehabilitation of a dual six-span steel bridge, the construction of a soldier pile retaining wall, the retrofit of three Dynamic Message Signs (DMS), the addition of three new DMS signs and a new closed circuit camera, and the replacement of two catilever highway signs. He reviewed the baseline schedule and reviews subsequent updates, analyzed progress, identifies schedule impacts, and coordinates work-arounds. He also reviews time extension claims and recommended responses to the client.

SR 309 Expressway Reconstruction, PennDOT District 6-0, Montgomery County, PA

Schedule Engineer. Responsible for establishing prebid construction schedules and project milestones for this \$330 million project, which involved safety improvements for a 10-mile sec. of limited-access highway that runs through five townships. There were 41 new or reconstructed bridge structures, including an active railroad and the Pennsylvania Turnpike mainline. In addition, the project included reconfiguring two major interchanges, 53 new retaining walls, noisebarrier walls, utility relocations, staged construction, maintenance and protection of traffic, local roadway detour improvements, wetland mitigation, and community relations. As part of the construction management consultant team, Charles monitored the CPM schedule, coordinated the review and approval of each schedule submission made by the various contractors, and

reviewed work-in-progress, critical areas of work, and solutions to maintain the established project schedules.

SR 0202, Sec. ERP, from the High Street Ramps to SR 100, Chester County, PA

Schedule Engineer for a \$19.4 million Economic Recovery Project to rehabilitate and improve 4.3 miles of Route 202. This project included replacing deteriorated concrete and resurfacing the four-lane expressway. It also included reinforcing shoulders, patching and repairing eight bridges, painting of steel beams on three bridges, replacing five overhead signs, and installing new guiderail and concrete median barriers. He reviewed the baseline schedule and subsequent updates, analyzed progress, identified schedule impacts, and coordinated work-arounds. He also reviewed time extension claims and recommended responses to the client.

US Route 202, Sec. 300 Reconstruction, PennDOT District 6-0, Chester County, PA

Schedule Engineer. Responsible for Sec. 320 and Sec. 330 sub-projects estimated to cost a total of \$188 million. Also serves as the Construction Engineer on the Sec. 330 sub-project. This project involved widening and safety improvements for a 6.3-mile sec. of limited-access highway, which runs through two townships. There are five widened/reconstructed bridge structures; 7.5 miles of soundbarrier walls; improved stormwater management systems; improved interchange configurations; and the addition of a two-mile-long, barrier-separated, collector-distributor lane. As part of the construction management consultant team, Charles monitored the CPM schedule. He coordinated the review and approval of each schedule submission made by the prime contractors, and reviewed work-in-progress, critical areas of work, and solutions to maintain the established schedules. As the Construction Engineer Charles runs the Project Control Meetings and produces the meeting minutes. He coordinates all incoming and outgoing documentation, and assists with the resolution of issues.

SR 0309, Sec. 104, from Easton Road to Five Points, PennDOT, Montgomery County, PA

Schedule Engineer for a \$11.4 million design-build project that involved expansion of the PennDOT, District 6-0 Traffic and Incident Management System (TIMS) and will provide real-time traffic and incident management and traveler information capabilities for approximately 13 miles of SR 0309. This project included a 21-camera Closed Circuit Television (CCTV) Camera System, a nine-sign Dynamic Message Sign (DMS) System, an Automatic Incident Detection System, one Roadway Weather Information System (RWIS) station, and a permanent communications system that connects all of the field elements back to the Traffic Management Center (TMC). He reviewed the baseline schedule and subsequent updates, analyzed

progress, identified schedule impacts, and coordinated work-arounds. He also reviewed time extension claims and recommended responses to the client.

SR 0309, Sec. 102, from Cheltenham Avenue to Church Road, Montgomery County, PA

Schedule Engineer for an \$88.4 million project that involved reconstruction of SR 0309 between Cheltenham Avenue and Haws Lane and the complete demolition/reconstruction of the SR 0309 interchange at Easton Road (County Road). This project included five bridges, two culvert extensions, 17 retaining walls, 1.6 miles of soundwalls, a pedestrian tunnel, and provisions for a future ITS system. He reviewed the baseline schedule and subsequent updates, analyzed progress, identified schedule impacts, and coordinated work-arounds. He also reviewed time extension claims and recommended responses to the client.

SR 0309, Sec. 101, from Highland Avenue to PA63, Montgomery County, PA

Schedule Engineer for a \$102.5 million project that involved reconstruction of SR 0309 between Highland Avenue and Welsh Road. This project included nine bridges, five culvert extensions, three retaining walls, 0.9 miles of soundwalls, six jacked pipes, and provisions for a future ITS system. He reviewed the baseline schedule and subsequent updates, analyzed progress, identified schedule impacts, and coordinated work-arounds. He also reviewed time extension claims and recommended responses to the client.

SR 0309, Sec. 103, from Camp Hill Road to Commerce Avenue, Montgomery County, PA

Schedule Engineer for an \$83.6 million project that involved reconstruction of SR 0309 between Camp Hill Road and Commerce Avenue and the complete demolition/reconstruction of the SR 0309 interchange at the Pennsylvania Turnpike. This project included six bridges, five retaining walls, and provisions for a future ITS system. He reviewed update schedules, analyzed progress, identified schedule impacts, and coordinated work-arounds. He also reviewed time extension claims and recommended responses to the client.

SR 0309, Sec. 100, Church Road to Camp Hill Road and from Commerce Avenue to Highland Avenue, Montgomery County, PA

Schedule Engineer for a \$57.9 million project that involved reconstruction of two portions of SR 0309 between Haws Lane and Highland Avenue. This project included six bridges, four culverts, 12 retaining walls, 1.1 miles of soundwalls, and provisions for a future ITS system. He reviewed the baseline schedule and subsequent updates, analyzed progress, identified schedule impacts, and coordinated work-arounds.

Years Experience: RIG Consulting Inc. : 3 Years
With Other Firms: 32+ Years

Education: Diploma, John S. Fine High School, Nanticoke, PA, 1972

Mr. Bobrowski is a multi-disciplinary inspector dealing with building structures. He understands contract requirements through analysis of specifications and drawings, along with the know and application of a variety of inspection techniques and testing procedures.

Experience:

**Construction Manager
PennDOT/RIG
BARTA Operations
Expansion Project
(7/2018- Present)** Provide CM/CI cost, schedule, safety and quality oversight of contractors performing construction activities associated with the following: the construction of a 33,000 square foot expansion of the existing bus storage facility, consisting of a rigid-inclusion supported concrete foundation with reinforced concrete slab, structural steel framing, masonry walls w/ gypsum fur-out, painting, insulated metal panels, overhead coiling doors, cold-applied built up roof, fire alarm system, fire protection system, complete waste oil-heating equipment system, complementary HVAC system, plumbing, industrial lighting, power, and resinous flooring. Selective demolition includes the removal of existing asphalt paving, overhead doors, masonry walls, and mature trees. In addition, the existing bus storage facility will receive upgrades inclusive of retrofitting the existing slab with trench drains, installation of new overhead doors, the tear off and replacement of the existing built-up roofing retrofitted with new skylights, and resinous flooring. Incremental improvements will be made to the existing Administration and Maintenance buildings. A new sprinkler valves room will be constructed and commercial standby generator installed, both of which will supply emergency support for the entire BARTA Operations facility. Various site improvements including concrete stairs, landscaping, relocated fence and retaining wall are also included in the project scope.

Project is a financial assistance contract between the Owner, the Pennsylvania Department of Transportation and the Federal Transit Administration. All applicable federal, state and local laws, regulations, ordinances, rules and regulations apply to the Project

**Construction Manager
PennDOT/RIG
Luzerne Co. Stockpile Site
Redevelopment Project
(3/2017- 12/2017)** Provided CM/CI oversight of contractors performing construction activities associated with new, High-arch Gambrel glulam timber column and beam salt storage building, personnel staging building, paving and demolition of existing salt storage dome building. Assured compliance with design and notified contractor and PennDOT Facilities Administrator if any activity appeared to be trending towards potential design deviation. Provided PennDOT with frequent status updates of critical evolutions, completed and filed daily reports and progress photos, and uploaded onto PennDOT project sharepoint website.

**Construction Manager
PennDOT/RIG
SCI Phoenix Prison Project
(7/2016- 3/2017)** Prepared and facilitated the final punch list on 26 buildings representing over \$350M construction of the SCI Phoenix prison. Performed walkdown of all buildings within the complex to inspect and verify that all fire and security barriers were constructed per design drawings; and all civil construction (including building concrete walls, sidewalks, ball courts, tracks, parking lots, roadways, berms, riparian buffer zones, swails, retention ponds, and grass areas) met design drawing requirements, noting any deviations.

**Construction Manager
PennDOT/RIG
Various PennDOT
Maintenance Facilities
Across South Eastern PA
(6/2016 - 3/2017)** Provided CM/CI oversight of contractors performing construction activities associated with multiple maintenance facilities including: the renovation of garage offices, new lunch room, and new conference room; the demolition and replacement of existing roof systems; the installation of new ventilation system, also requiring a new electrical distribution system installation; construction of new High-arch Gambrel, glulam timber column and beam salt storage buildings in Gladwyne and Philadelphia, PA; and a new, 2 bay, reinforced concrete wall, salt storage building in Reading, PA. Assured compliance with design and notified contractor and PennDOT Facilities Administrator if any activity appeared to be trending towards potential design deviation, so appropriate actions could be taken to avert or mitigate any deviation. Provided PennDOT with frequent status updates of critical evolutions, completed and filed daily reports and progress photos, and uploaded onto PennDOT project sharepoint website.

James Howley

Construction Manager

James Howley is a Construction Manager specializing in the installation of structural, electrical, mechanical, ventilation, lighting, communication, and computer systems for highway, bridge, tunnel, toll-plaza, industrial plant, pump station, and building projects. His approach to construction management and supervision has resulted in high quality projects completed on schedule and within budget. He is knowledgeable in Critical Path Method scheduling (Primavera), cost controls, and construction claims, including delay analysis.

Years of Experience

40

Education

- Bachelor of Science, Civil Engineering, Villanova University, 1980
- Course Certificate, Dale Carnegie Course, , 1998
- Course Certificate, , National TIM Responder Training, 2014
- Course Certificate, Transportation Engineering Technology/Highway Construction, NICET, 2005
- Course Certificate, Project Management Training, Urban Engineers, Inc., 2006

Registrations

- NICET-Level 4 Transportation/ Highway Construction

✓ **Buy America Experience**

✓ **Federally funded projects**

Selected Project Experience

Valley Forge Interchange Construction, PTC, King of Prussia, PA

Quality Assurance Manager. First design-build contract involving interchange construction. This project involved widening of the toll plaza, including expansion of the toll plaza facilities, earthwork and embankment, and construction of new concrete pavement. The canopy superstructure was expanded to accommodate the widened plaza. The existing 6,000-SF canopy and toll booths were repainted, which included lead paint removal. E-ZPass electronic toll collection was installed and implemented. Because of the critical schedule for the Turnpike-wide implementation of the E-Z Pass system, a design/build approach was utilized. The project included a disincentive penalty of \$10,000 per day. The contract was completed 17 days ahead of the contract completion date. The project earned an award in the Delaware Valley Engineer's Week Outstanding Engineering Achievement competition. James's responsibilities included auditing the project's documentation control systems; reviewing the contractor's cost loaded schedule updates for approval of progress payments; monitoring the contractor's quality control program; interpreting contract documents and resolving construction issues; and interfacing and coordinating with the owner, contractor, and outside agencies.

Mainline Toll Facility and Delaware River Bridge Open Road Tolling (ORT), MP 351.43 to MP 354.18, and MP 357.96 to MP 358.32, PTC, Bucks County, PA

Construction Manager. \$61 million construction of a mainline toll plaza as part of the Turnpike's I-95 Interchange Project. This project involved contracts for general construction; plumbing; electrical; and heating, ventilation, and air conditioning work. The project involved construction of a new 6,900-square-foot toll building and a thirteen-lane toll plaza with five conventional exit lanes and three conventional entry lanes with booths, islands, and separate overhead canopies. The conventional plazas are separated by five high-speed EZ-Pass tolling lanes. The toll plaza is serviced by a 250-foot-long pedestrian and mechanical utilities tunnel. A unique feature of the project was the jacking of an 8' x 7' pre-cast box culvert under the active roadway. Three other box culverts were also extended to accommodate the roadway widening for the new toll plaza. Approximately 3,400 linear feet of noise wall was constructed. The project also involved installing a highway lighting system, overhead sign structures, water main, and a sanitary sewer. The Delaware River Bridge ORT implementation is also included in the contract. This all-electronic tolling location included E-Z Pass tolling, as well as the Turnpike's new Toll by Plate tolling system. With the new Toll by Plate system, if a vehicle passing through the tolling gantry is not equipped with E-Z Pass, cameras capture the vehicle's license plate at highway speeds and a toll bill is mailed to the vehicle's registered owner. This is the Turnpike's initial installation and implementation of this new Toll by Plate system. This work involves

construction of a pre-fabricated utility building and a toll equipment gantry. After the new ORT and mainline toll facilities were implemented, the demolition of the existing tolling facilities at the Turnpike's Delaware River Bridge and Delaware Valley Interchanges began. These old conventional toll plaza are being reconstructed for free-flow traffic movement without tolling. James supervised the field office and inspection staff of 14 people; coordinated with the four prime contractors, the design engineer, architect, and the owner's representatives, including their toll equipment vendor, and other agencies; and established the contractor's progress payments. He also established entitlement and negotiated costs for change orders.

Plymouth Meeting Maintenance Facility, Pennsylvania Turnpike Commission (PTC), Montgomery County, PA

Construction Manager. \$20 million construction of a new 28,132-sf 2-story maintenance building maintenance facility with offices, a vehicle service and repair garage and an automated vehicle wash system; a 25,935 sf, single-story equipment and vehicle storage building; a 13,250-sf pre-engineered salt storage shed; and a 1,500-sf canopy for diesel LP fueling stations with above-ground storage tanks. The project was designed to meet LEED Certification requirements. Work includes demolition of existing facilities, including those at a third site, and removal and disposal of underground storage tanks and hazardous materials. This project includes contracts for general construction; plumbing; electrical; and heating, ventilation, and air conditioning. James coordinates with the Pennsylvania Department of Labor and Industry's code inspectors to obtain the Certificate of Occupancy. He supervises a resident engineer, three inspectors, an office clerk, and a schedule engineer. He chairs the bi-weekly project meetings and is responsible for project documentation, including contract correspondence and shop drawings, and preparation of contractor estimates and change orders.

Advanced ITS Deployment for the I-276/I-95 Interchange Project, PTC, Bucks County, PA

Construction Manager. \$3.4 million contract for installation of eight dynamic message signs and two CCTV system cameras. The signs are located on the approaches to the Turnpike from PA Route 1, Route 13, and Route 132, as well as a location on the Pennsylvania Turnpike and New Jersey Turnpike mainlines. The work includes maintenance and protection of traffic.

Trevose Maintenance Facility, PTC, Bucks County, PA

Construction Manager. \$17 million contract for construction of a 23,360 sf maintenance building with offices, a vehicle service and repair garage, and an automated vehicle wash system; a 21,540 sf equipment and vehicle storage building; an 11,650 sf salt storage

shed, which includes reinforced concrete walls and wood truss roof framing; a 2,410 sf electrical building to house the main switch gear, emergency generator, and transfer switch; a pre-fabricated building for the communication tower equipment; and a 755 sf canopy for the new fueling station with new underground storage tanks. The project is designed to comply with LEED Certification requirements. The work is phased to maintain operations during construction of the new facilities. Work included demolition of existing facilities; removal of underground storage tanks and disposal of hazardous waste and soils; and site improvements, including utilities, lighting, paving, fencing, and landscaping. James coordinated with the Pennsylvania Department of Labor and Industry's Code Inspectors to obtain the Certificate of Occupancy. He supervised a staff of three inspectors, an office clerk, and a schedule engineer. He also chaired the biweekly project meetings and was responsible for project documentation, including contract correspondence, shop drawings, preparation of contractor estimates, and change orders.

Rehabilitation and Expansion of Toll Plaza, Utility Building, and Roadway and Lighting for the Norristown Interchange, MP 333.28, PTC, Montgomery County, PA

Construction Manager. \$17 million project to reconstruct and expand the interchange while maintaining traffic and toll plaza operations. This project involved four contracts for general construction; plumbing work; electrical work; and heating, ventilation, and air conditioning. The general construction contract involved staged demolition of the utility building and toll plaza; construction of a new two-story, 5,200-sf building; staged construction of an 11-lane toll plaza with a 12,600-sf steel canopy superstructure and a standing seam metal roof; and construction of a pedestrian tunnel. The two-story building was constructed of reinforced concrete and masonry cavity walls with structural steel framing for the pre-cast hollow core concrete second floor planking, metal roof trusses, and a standing seam metal roof. The remaining three contracts involved installing an oil-fired boiler and chilled water systems for service to the building, tunnel and toll booths; an emergency generator; and a wet sprinkler and a clean agent fire suppression system. The mechanical, electrical, and plumbing services, as well as the data and communication wiring to the new toll booths, will be provided through the 220-foot-long pedestrian tunnel. The project also involved installing a highway lighting system, overhead sign structures, water main, and a sanitary pump station and force main. James's responsibilities included supervising the field office and inspection staff; directly coordinating with the four prime contractors, the design engineer and architect, the owner's representatives including their toll equipment vendor, and other agencies; and establishing the contractor's progress payments. He also established entitlement and negotiated costs for change orders.



Moses Gaster, EIT, CEP

Cost Estimator

Moses is a construction professional with experience in a wide range of fields, projects, and responsibilities. He has served as a project manager, scheduler, estimator, and field engineer for multi-prime contracts and large design-build projects and has estimated projects valuing as much as \$1 billion. Moses' 12 years of contractor experience adds additional value. He understands contractors' perspectives, which enables him to foster trust and build partnerships among multi-prime teams. His scheduling responsibilities include building baseline schedules and refining and updating schedules using Primavera Versions 3, 5, and 6. Moses also uses critical path analyses to identify and prevent potential delays and provides forensic scheduling for claims analyses.

Years of Experience

19

Education

- MS, Construction Management, Drexel University, 2017
- BS, Civil Engineering, Penn State University, 1999

Registrations

- Certified Estimating Professional (CEP)
- Engineer-in-Training (PA)

Associations

- Association for the Advancement of Cost Engineering (AACEI)

✓ **e-Builder Software**

✓ **Buy America Experience**

✓ **Federally funded projects**

Selected Project Experience

SCI Phoenix, Pennsylvania Department of General Services, Skippack, PA

Project Manager/Inspector/Estimator. Construction management of emergency projects from pre-construction planning and budgeting to closeout at completion, including civil, structural, architectural, and MEP. Provided facility construction inspection services for civil, architectural, and MEP. Reviewed, analyzed, and provided check estimates for contractor claims. (2017 - 2018)

Comcast Innovation & Technology Center, Liberty Property Trust, Philadelphia, PA

Inspector. Provided on-site administrative support to expedite documentation, Special Inspections, and materials testing of structural steel to mitigate overall project schedule impacts. (2017)

30th Street Station Renovations, Amtrak, Philadelphia, PA

Inspector. Provided independent quality control inspection of exterior and interior windows and coatings. Supported Owner's Quality Assurance program for General Contractor, Mark 1 Restoration Services Inc. and Subcontractor, Femenella & Associates, Inc. (2017)

Bowditch Hall Renovations, US Merchant Marine Academy, Kings Point, NY

Estimator. Provided construction cost estimating for civil, architectural, structural, and MEP renovations design development to existing historic office and classroom building. (2017)

Lincoln University John Miller Dickey Hall Renovation, PADGS, Lower Oxford, PA

Estimator. Provided quantity, pricing, and overall estimate check to verify and adjust this Pennsylvania Department of General Services (PADGS) project budget prior to bid. (2017)

Anderson/Gladfelter Phase 1, Temple University, Philadelphia, PA

Estimator. Provided conceptual and final construction cost estimates for civil, architectural, structural, and MEP design development to rehabilitate and improve residence hall roof top terrace. (2017)

Bakken Crude Unloading, Philadelphia Energy Solutions, Philadelphia, PA

Estimator/Scheduler. Provided project controls, estimating, scheduling, and constructability review for this fast-paced, Engineering-Procurement-

Construction Management project to add a sixth railroad track and second underground unloading manifold into the operating refinery. Challenges included minimizing interference with rail unloading operations and maximizing worker safety. Urban was the CM/GC.

In developing and updating the schedule, Moses focused on increasing the amount of parallel work which could be completed by the four prime contractors, thereby decreasing construction duration. He was on-site throughout construction updating, revising, re-sequencing, and coordinating the detailed project schedule inclusive of all work activities. Moses also coordinated with the Resident Engineer to quickly implement an innovative method, suggested by the civil contractor, to avoid excavation of hazardous soils and the resulting delays. (2014)

Turnpike Widening and Reconstruction, PTC, Southeastern PA

Estimator. Construction cost check estimates for multiple sections of Pennsylvania Turnpike Commission (PTC) highway widening, including drainage, roadway, bridge, retaining and sound wall, and utility elements. (2015 - 2017)

Ardmore Transit Center, SEPTA, Ardmore, PA

Estimator. Provided detailed construction cost estimates for preliminary, intermediate, and final design of multi-phased, operating station and platform upgrades including new five-story parking garage. (2015 - 2016)

Blanket Purchase Agreement for Cost Estimating Services, GSA Region 3

Cost Estimator. Continuing, open-ended assignment, including plan development for conceptual through final design and construction costs ranging from \$200,000 to \$20 million. These have included interior and exterior renovations, new construction, and security enhancements throughout the full range of CSI divisions. Facilities users include US Marshals, FEMA, FBI, IRS, NARA, SSA, FBI, federal and state courts, and Immigration. (2012 - 2013)

Data Center Expansion/Renovation, Nomura Securities International, Inc., Piscataway, NJ

Cost Engineer. Design-build General Construction Contractor, JJS, fast-paced project to upgrade/expand existing operating data center facility in order to meet the client's deadlines (two phases). Provided claims management of all subcontracts and change order management of the prime contract. (2011)

ALLISON SLIZOFSKI, PE, PTOE
ITS/TRAFFIC ENGINEER



Ms. Slizofski has a variety of practical experience in ITS and Traffic Engineering for the enhancement of existing infrastructure as well as for construction access, detour staging, and traffic impact studies. She has extensive experience with ITS and Traffic related policy, planning, design, construction services, operations, and asset management. She has a complete picture approach to ITS and Traffic solutions that incorporates low cost system and civil improvements as well as operational improvements including incident and emergency management. Ms. Slizofski frequently works with a variety of stakeholders to build consensus and complete projects on time and on budget.

Relevant Project Experience:

Professional Background

Education

M.S.C.E., Civil Engineering-
 Transportation, University of
 Texas at Austin, Austin, TX,
 2007

B.S.C.E., Civil Engineering,
 Northeastern University,
 Boston, MA, 2006

Licenses/Certificates

Professional Engineer:
 Pennsylvania
 New York
 Maryland
 Ohio

**Technical Areas of
 Expertise**

Intelligent Transportation
 Systems
 Traffic Engineering
 Traffic Operations Analysis
 Traffic Simulation
 Transportation Management
 Plans
 Preliminary and Final Design
 and Specification Preparation
 ITS Deployment Testing
 Transportation Planning and
 Programming

Professional Associations

ITS Pennsylvania
 ITS New Jersey
 WTS Philadelphia
 MASITE
 Montgomery County
 Transportation Authority

Pennsylvania Department of General Services, A 509-128 Refurbish Roads, Section E, Norristown State Hospital: Responsible for delivering roadway plans and specifications for 2000' of pavement design. Worked with the facility to identify the most apparently critically location for base repairs to be shown on the plans. Drive continued to advise the Facility throughout the construction process adjust and remediate failing pavement substructure throughout the project. This allowed the facility to receive the best product for the available project funding. Due to the location on a hospital campus, special consideration was given to pedestrians and disabled users, including ADA compliant ramps, speed humps, and raised crosswalks at a bus stop location.

Pennsylvania Department of Transportation District 6-0, I-95 Section GIR and CPR Construction Consultation Services, Philadelphia, PA: Project Manager responsible for technical assistance and stakeholder coordination for ITS installations along the I-95 mainline as well as several parallel arterials and other roadways in the District, including I-676, SR 63, I-476, SR 611, Columbus Ave, Delaware Ave, and Aramingo Ave. Coordination with PECO, DRPA, and the fiber installation contractor were critical to getting the CCTV, DMS, and detectors online.

Pennsylvania Department of Transportation District 6-0, I-95, Section ITB Design-Build, Philadelphia and Bucks Counties, PA: Engineer for the Design-Build PS&E for this American Recovery and Reinvestment Act project which expands the PennDOT District 6-0 ITS network and provides real-time traffic, incident management, and traveler information capabilities along I-95 and I-676, for approximately 21 miles of interstate roads in the Philadelphia region including over; 31 CCTV cameras, 17 DMSs, 51 vehicle detectors, and 54 travel time tag readers over a fiber-based SONET network back to the RTMC. In addition, construction services were provided which included detailed reviews of the Final Design and ITS device testing.

Pennsylvania Department of Transportation Bureau of Maintenance and Operations and District 6-0, Traffic Signal Asset Management System (TSAMS): Project Engineer for the documentation, upload, and field inventory of 2,498 traffic signal cabinets' controllers, MMUs, detection equipment, preemption equipment, and other relevant components. The inventory involved documenting all manufacturers and system types into the TSAM's iPad application. Once data was field logged, it was verified and cleansed in the SharePoint database to ensure statewide consistency with overall consultant team.

Pennsylvania Department of Transportation District 6-0, I-76, Schuylkill Expressway Integrated Corridor Management, Philadelphia and Montgomery Counties: Project Engineer assisting in ITS Conceptual (ICM) Design, Emergency Responder outreach, and Advanced Traffic Management Software (ATMS) integration for the I-76 corridor in Montgomery and Philadelphia Counties. Design aspects include Variable Speed Limits, Ramp Metering, and



Mark S. Purcell, AIA, CCM LEED AP Project Executive



PROFESSIONAL PROFILE

Mr. Purcell has 25 years of experience in the design and construction industry. He specializes in the planning, design, analysis, and construction of multi-million-dollar programs focusing on corporate office, institutional, government and educational markets. Having worked for a private real estate developer, government agencies, designs and construction firms he understands the needs of facility owners and has particular expertise constructing energy efficient, sustainable design projects. He's been recognized among his professional network as an effective communicator, writer and experienced public speaker. Key points that draw his motivation to excellence is enjoying client interactions and providing high quality professional services to ensure that their goals and needs are met.

PROJECT EXPERIENCE

Pennsylvania Department of General Services (DGS), Pennsylvania Judicial Center, Harrisburg, PA, Senior Project Manager

Mark was responsible for estimates, schedules, commissioning and constructability reviews as part of comprehensive Construction Management services for a new 400,000 SF judicial center in Harrisburg's historic Capitol Complex. Valued at \$107 million, the building includes courtrooms, offices, auditorium, archives, library, cafeteria and underground parking. It will house the Supreme and Superior Courts of Pennsylvania and Administrative Office of Pennsylvania Courts. The cost estimate provided for this project was within two-tenths of one percent of bids received.

U.S. General Services Administration (GSA), US Courthouse Harrisburg Pennsylvania Design, Harrisburg, PA, Preconstruction Manager

Mark is serving as Preconstruction Manager for GSA's new \$150 million Federal Courthouse, designed to meet the Court's 30-year space requirements in an approximately 243,000 SF facility housing 8 courtrooms, judges' chambers, jury facilities, holding cells and secure underground parking.

Delaware Water Gap Welcome Center, Smithfield (DGS), PA, Project Manager

Mark served as Project Executive for pre-construction and construction phase management services for a new, 12,721 SF welcome center for the Pennsylvania Department of Transportation located off Interstate 80 in the Delaware Water Gap. The project included the construction of associated bridge and roadway work totaling \$9.9 million. Designed for LEED Silver certification, it features environmentally friendly initiatives that save energy and cut operating costs such as geothermal heating and cooling systems, a green roof planted with landscaped shrubs and use of local and recycled materials.

Millersville University (DGS): Preconstruction Manager for a new \$17 million Visual Performing Arts Center which includes an addition and renovation to the existing Alumni Hall Lyte Auditorium and Parking facility.

Lincoln University (DGS): Construction Manager for \$40 million campus-wide infrastructure upgrade to water, sewer, boiler plant, steam and electrical distribution systems.

West Chester University (DGS): Project Manager for a new \$30 million, 76,000 SF School of Music and Performing Arts Center. This LEED Silver facility includes music studios, 375-seat performance hall, a 120-seat recital hall, art gallery, teaching facilities, offices, recording studio, practice rooms and music library.

Indiana University of PA (DGS): Design & constructability review for a \$3.5 million historic renovation to Wilson Hall originally constructed in 1893.

Education

B. Arch., University of Notre Dame

Registrations

Registered Architect in PA, NJ & MO; NCARB Board Certified

Certifications

Certified Construction Manager
LEED Accredited Professional

Professional Affiliations

Adjunct Professor, Jefferson University

Co-Founder & Past President, Delaware Valley Green Building Council

Director, Philadelphia Center for Architecture

Past Chair, Westtown Twp. Planning Commission

American Institute of Architects
Urban Land Institute

2011 Fellow, LEADERSHIP Philadelphia

Managed Lane Solutions with Hard Shoulder Running. The preliminary design includes updates to the Delaware Valley Regional Planning Commission's (DVRPC) Regional ITS Architecture, incorporating project architecture service packages associated with hard shoulder running and lane management technology. Stakeholder outreach with emergency responders and municipal authorities is on-going to incorporate design elements such as emergency pull offs, access points, and median barrier gates at critical locations to ensure the safety and efficient operations of responders. Drive is also part of the arterial and systemwide management of this project through PennDOT's Transportation System Management and Operations (TSMO) contract, E03920.

Pennsylvania Department of Transportation District 6-0, Traffic Signal Retiming Initiative, E02891: Engineer responsible for assisting with traffic engineering design services associated with signal retiming effort for key corridors in PennDOT District 6-0. Design responsibilities included traffic data collection, permit compliance reports, traffic analysis, traffic models, optimization of traffic signal cycle lengths, splits, and offsets using Synchro and TruTraffic, and the updating of the corresponding Traffic Signal Permit Plans

Pennsylvania Department of Transportation District 6-0, SR 0202, and Section 500 ITS Design: Project Engineer responsible for developing ITS PS&E documents for the SR 202 Sections 510 and 520. The project includes developing comprehensive ITS communications schematics to support the ITS devices being deployed. The communication methods include SONET, Ethernet, and serial for ITS devices such as Closed Circuit Television (CCTV) cameras, Dynamic Message Signs (DMS), and Bluetooth Readers. In addition, the project includes providing a communication link for a traffic signal system that will be retrofitted along the SR 0202 corridor. Furthermore, the project will also include the development of a Systems Engineering/Concept of Operations report in accordance with FHWA guidelines. The report will include a travel time section that will discuss the travel time systems to be deployed along the SR 202 corridor.

Pennsylvania Department of Transportation SR 2006, MacDade Blvd ITS Design, Delaware County, Pennsylvania: Designer responsible for assisting PennDOT in the development of ITS PS&E documents for the SR 2006 MacDade Blvd Ramp Reconstruction project. The project includes developing comprehensive ITS communications schematics to support the ITS devices being deployed or relocated. The communication methods include SONET, and Ethernet. ITS devices include Closed Circuit Television (CCTV) cameras, Arterial Dynamic Message Signs (ADMS), and Ramp Meters. In addition, this project also includes providing testing, comprehensive construction consultation services, and reviews on behalf of the client.

Pennsylvania Department of Transportation BOMO, Statewide Traffic Management Center Personnel, E03417, Harrisburg, PA: Responsible for managing this contract for the PennDOT Statewide Traffic Management Center (STMC) in Harrisburg, PA. The STMC has 24/7 staffing provided by the consultant team to manage, monitor, and evaluate incidents and congestion. Staff will provide historical, real-time, and predictive data to Regional Traffic Management Centers in PennDOT Districts 11-0, 2-0, 8-0, and 6-0.

Available Resources

Urban’s staff includes professionals in the following disciplines:

Engineers		Other professional disciplines
<ul style="list-style-type: none"> • Civil • Electrical • Construction • Environmental • Geotechnical • Marine/Ports 	<ul style="list-style-type: none"> • Mechanical • Rail • Traffic • Utility Systems • Structural • Transportation 	<ul style="list-style-type: none"> • Ecologists • Estimators and Schedulers • Environmental Scientists • Hydrologists • Geologists • Litigation Support Specialists • Planners • Surveyors

Urban provides clients with a broad range of services in such markets as:

- Aviation
- Construction Management and Construction Inspection
- Bridge Design and Inspection
- Building Systems Design
- Civil/Site Design
- Material Testing
- Claims Litigation Support
- Environmental Services and Permitting
- Highway Design
- Marine Services
- Planning Services
- Program Management
- Railroads and Rail Transit Design
- Traffic Engineering and Intelligent
- Transportation Systems

Urban’s Philadelphia office - our corporate headquarters and designated project office - employs approximately 250 professionals. We are supported by Pennsylvania-based offices in Mechanicsburg, Warrendale, State College, Boothwyn, and Erie; staff totals for these branch offices is nearly 100. We also have regional offices in Cherry Hill, NJ (47 staff members), and New Castle, DE (5).

Task Breakdown

The estimated man hours for the Urban Team to provide Pre-Construction and Construction Stage construction management services is provided in the following table. It is assumed that the duration of the contract is 36 months with 18 months of Pre-Construction and 18 months of Construction.

Pre-Construction Stage Tasks (18 months)	Project Director	Project Manager	Senior Construction Manager	Senior Engineer	Senior Architect	Senior Estimator	Senior Scheduler	Resident Engineer	Project Clerk
Document Review	40	40	40	240	80	40	40	40	
Orientation Meeting	8	8	8	16	16	8	8	8	
Project Schedule Review	4	4	4				40		
Set up Commissioning	4	8			8				
Commissioning Plan	8	16		16	16				
Job Conferences (36 ea)	144	144	72	144	144		144	144	
Submittal Schedule	4	8			40			24	
Schedule of Values	4	8	24			40		24	
DBC Invoice (18 ea)	18	36				144		36	
Design Charettes (3 ea)	24	48		96	96				
Design Submission Reviews (2 ea)	80	80	80	640	160	80	80	80	
Construction DBC's MEP Procurements	8	16	32	80	120	40			
Totals	346	416	260	1232	680	352	312	356	0

Construction Stage Tasks (18 months)	Project Director	Project Manager	Senior Construction Manager	Senior Engineer	Senior Architect	Senior Estimator	Senior Scheduler	Resident Engineer	Project Clerk
Initial Job Conference	8	8	16	8	8	8	8	8	
Job Conferences (36 ea)	144			144	144	144	288	288	
Construction Management, Reporting & Documentation, Issue Resolution	156	3000	6000	300	300	300	300	3000	3000
Final Inspection, Punchlisting & Closeout	16			320	160	160			
Totals	324	3008	6016	772	612	612	596	3296	3000

4. Preliminary DBE Performance Plan

4. Preliminary DBE Performance Plan

Urban's Preliminary DBE Performance Plan has been included in the Mandatory Document Submittal envelope.