SYRACUSE DIVISION
BUNDLED BRIDGES

TAS 17-37B, Contract D800001

DB CONTRACT DOCUMENTS

PART 3

PROJECT REQUIREMENTS

Final, October 5, 2017

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SECTION 1 GENERAL

1.1 PURPOSE

This Part 3 establishes the basic Requirements of the Project. The Contract Documents, Authority standard drawings, manuals and specifications, and the referenced Design Codes and Manuals shall be followed for the preparation of design and construction documents and the execution of the Work. Any proposed deviation from the Contract requirements or Authority standards shall be submitted to the Authority's Design Quality Assurance Engineer for review, and shall require the submission of a Non-conformance Report, where the Design-Builder is to identify, explain, and justify any deviation from the established criteria to the Authority's Design Quality Assurance Engineer.

All designs shall be prepared in U.S. Customary units. The Design-Builder shall be responsible for converting any mapping, plans, etc. into U.S. Customary units as necessary for the completion of the Project.

The design and construction shall be in conformance with the latest edition of the New York State Department of Transportation, Standard Specifications, with addenda, issued by the Department of Engineering, current as of the date of Proposal submission, excluding Section 100, which is superseded by Part 2, Section DB 100 of the Contract Documents, and except as otherwise noted in these Contract Documents.

The Design-Builder shall prepare Project Specifications for the Project, for Work Items not covered by the NYSDOT/Authority Standard Specifications or applicable Special Specifications, and shall prepare Design Plans for the Project in accordance with Authority standards for general content and format, and in accordance with the Contract.

The Design-Builder shall prepare and submit a Non-conformance Report (in accordance with the provisions of DB §105-16) for any Work proposed to be or actually performed that does not conform to the Contract requirements and for any deviations from Authority standards.

1.2 SCOPE

The Design-Builder shall be responsible for complying with all terms of the Contract Documents. The Design-Builder shall review and understand all terms and conditions of the Contract Documents prior to the commencement of the Project and shall be responsible for determining the full Scope of the Project by undertaking a thorough examination of the Contract Documents, the Reference Documents and the Project Site.

1.3 SCOPE OF WORK – MAJOR ITEMS

The scope of work for the Project includes but is not limited to the following items:

A)

BIN	MP	ML/OH	AADT	Condition Rating	Min V.C.	Existing # Spans	Existing Bridge Length	Deck Area	Existing Bridge Type
1020079	219.91	ML	21,708	3.78	14.35	2	124’	16,400	Stringer/ Multi-Girder
5516072	225.48	ML	10,940	3.75	15.14	1	35’	1,953	“
5516071	225.49	ML	“	3.50	14.30	1	35’	1,953	“
5009929	238.22	ML	22,322	3.61	14.07	3	150’	16,950	“
5512980	240.48	OH	7,440	3.75	14.39	4	206’	6,800	“
5512790	262.01	OH	1,527	4.11	14.69	4	200’	6,940	“
5510090	278.93	OH	6,403	3.89	14.19	4	204’	8,772	“
5510130	282.62	ML	30,283	4.09	N/A	2	30’	5,376	Concrete Culvert

The project will involve eight full bridge replacements which will include demolition of the existing structures and complete construction of the replacement bridges. Highway work for the full eight replacement bridges will include approach work to tie into the new structures, while meeting all present day design standards.

1.4 COORDINATION WITH OTHER PROJECTS

The Design-Builder shall coordinate the work so as not to conflict with other projects occurring within or abutting the Contract limits. Projects are under development and as the Capital Program gets other revisions, notification to the successful Design-Builder will occur based on the Design-Builder’s schedule and the potential of possible conflicts.

1.5 DESIGN CODES AND MANUALS

In addition to this Part 3, Project Requirements, the Design-Builder must comply with all applicable engineering codes and standards, including those of the various Federal, State, and local jurisdictions.

If codes, standards and/or manuals are specified herein for the design of an element of the Project, then the edition(s) in effect on the Proposal due date shall be applicable to the Project. Responsibility for design remains with the Design-Builder in accordance with the terms and conditions of the Contract. If a code, manual or standard is subsequently modified by the issuer, the Design-Builder shall notify the Authority of such modification(s) and request the Authority’s decision regarding application of the modification(s).

All Work shall conform to the following documents. In the event of a conflict between the codes and the referenced documents listed below, the more stringent requirements, as determined by the Authority, shall apply.

For Work not specifically covered by the individual sections of the *Project Requirements*, the Design-Builder shall, at a minimum, apply the Standards normally applied by NYSTA for such work, to the extent they do not conflict with express requirements in the Contract Documents. The Design-Builder shall be solely responsible for ensuring that it identifies and applies all correct Standards.

AASHTO:

- A Guide for Accommodating Utilities within Highway Right-of-Way
- A Policy on Design Standards - Interstate System
- A Policy on Geometric Design of Highways and Streets
- Construction Handbook for Bridge Temporary Works
- Guide Design Specifications for Bridge Temporary Works
- Guide for the Design of Pavement Structures (with Supplement)
- Guide Specification for Bridge Railings (1989)
- Guide Specifications for LRFD Seismic Bridge Design
- LFRD Bridge Construction Specifications
- Manual for Assessing Safety Hardware (MASH)
- Manual for Bridge Evaluation
- Manual on Subsurface Investigations
- Mechanistic-Empirical Pavement Design Guide (MEPDG),
- Roadside Design Guide
- Roadway Lighting Design Guide
- Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals.

AISC:

- Steel Construction Manual

ANSI

- ANSI/AASHTO/AWS D1.5-95 Bridge Welding Code
- ANSI/IES Approved Recommended Practice for Roadway Lighting, RP-8-00

Asphalt Institute:

- Drainage of Asphalt Pavement Structures

ASTM:

- E2213-03 Standard Specification for Telecommunications and Information Exchange Between Roadside and Vehicle Systems

- E2259-03 Standard Guide for Archiving and Retrieving ITS-Generated Data
- E2468-05 Standard Practice for Metadata to Support Archived Data Management Systems
- E2655-08 Standard Guide for Reporting Uncertainty of Test Results and Use of the Term Measurement Uncertainty in ASTM Test Methods

Federal Geographic Data Committee:

- GIS Standards

FHWA:

- FHWA Ground Improvement Methods
- FHWA NHI-00-043 Mechanically Stabilized Earth Walls and Reinforced Soil Slopes Design and Construction Guidelines
- FHWA NHI-01-004 River Engineering for Highway Encroachments
- FHWA NHI-05-123 Soil Slope and Embankment Designs
- FHWA NHI-11-032 GEC No. 3 LRFD Seismic Analysis and Design of Transportation Geotechnical Features and Structural Foundations
- FHWA HI-99-007 Rock Slopes Reference Manual
- HEC 18 Evaluating Scour at Bridges
- HEC 23 Bridge Scour and Stream Instability Countermeasures
- Manual of Uniform Traffic Control Devices (MUTCD)
- Pavement Publications
- Standard Highway Signs and Markings (SHSM) Book
- Steel Bridge Design Handbook
- Technical Advisory T6640.8A, 10/30/87 (environmental analyses)
- Traffic Monitoring Guide

NFPA:

- NFPA 70 – National Electrical Code (NEC)
- 502: Standard for Road Tunnels, Bridges, and Other Limited Access Highways

NYSDEC:

- Standards and Specifications for Erosion and Sediment Control (SESC)
- Stormwater Management Design Manual (SMDM)

NYSDOT:

- Annual Report titled "Axle Factor Update"
- Approved Materials List
- Bridge Detail (BD) Sheets US Customary (NYSDOT BD Sheets)

- Bridge Inspection Manual
- Bridge Inventory Manual
- Bridge Manual
- Bridge Safety Assurance Seismic Vulnerability Manual
- Comprehensive Pavement Design Manual
- Design Consultant Manual
- Environmental Procedures Manual (EPM) / The Environmental Manual (TEM)
- GCP-17, Procedure for the Control of Granular Materials
- Geotechnical Design Manual, including all appendices
- Highway Design Manual (HDM)
- Land Surveying Standards and Procedures Manual
- NYSDOT LRFD Bridge Design Specifications
- Manual for Uniform Record Keeping
- Materials Bureau - Applicable Sampling and Testing Manuals, Inspection Manuals, and Materials Methods.
- New York State Supplement to the Manual on Uniform Traffic Control Devices
- Overhead Sign Structure Design Manual
- Policy and Standards for the Design of Entrances to State Highways
- Policy on Highway Lighting
- Prestressed Concrete Construction Manual (PCCM)
- Project Development Manual
- Special Specifications as indicated in the Contract Documents
- Standard Specifications for Construction and Materials (excluding Section 100)
- Steel Construction Manual (SCM)
- U.S. Customary Standard Sheets
- Work Zone Traffic Control Manual
- ROW Mapping Procedure Manual

The above is a partial listing of applicable NYSDOT Engineering Manuals and Guidelines. The Design-Builder shall perform the Work in conformance with all NYSDOT Engineering Manuals and Guidelines in effect on the Proposal due date.

Thruway Authority

- **Consultant Instructions**
- **Approved EI, EB Adoption List**

- **Thruway Standard Sheets**

OSHA:

- PART 1926 - Safety And Health Regulations For Construction

SPC:

- Society of Protective Coatings Standards

USDOJ:

- ADA Accessibility Guidelines for Buildings and Facilities

USDOT:

- ADA Standards for Transportation Facilities

1.6 REQUIREMENTS

The "Requirements" subsection of the individual sections of *Part 3 – Project Requirements* establishes the Authority's expectations with respect to specific Project elements. These include administrative, managerial and technical considerations as deemed appropriate to the subject, and encompass performance specifications, design criteria, and directive instructions as the Authority deems best suited to the subject. The Design-Builder shall develop its Definitive Design, Design Plans and Project Specifications in conformance with this *Part 3 – Project Requirements*.

The Design-Builder shall be responsible for meeting all requirements and terms contained in this *Part 3 – Project Requirements* unless explicitly stated otherwise.

The specific requirements in this *Part 3 – Project Requirements* may be more stringent and shall govern over the criteria given in the Standards. Where a specific requirement in this *Part 3 – Project Requirements* is more stringent than the criteria specified in a Standard, said specific requirement shall become the basis for determining compliance. Non-standard features needing justification and FHWA and/or NYSTA approval are defined as those not meeting the criteria cited in the Standards listed in this *Part 3 – Project Requirements*.

1.7 DELIVERABLES

Deliverables to be submitted by the Design-Builder throughout the design and construction of this Project, and upon completion of the Project, are specified in the NYSDOT/Authority manuals listed in Section 1.6 of this Part 3 – Project Requirements. These shall supplement the review plan and consultation and written comment cycles cited in *DB §111-8* through *DB §111-14*. The Design-Builder may submit deliverables for the Authority's consideration or consultation and written comment in addition to those cited in the NYSDOT/Authority manuals. The Design-Builder shall include such additional submittals in its review plan and revise the review plan as necessary to incorporate sufficient advance notice to the Authority.

Unless otherwise indicated elsewhere in the Contract Documents, or directed by the Authority's Project Manager, all deliverables shall be submitted in both electronic format and hardcopy format. Acceptable electronic formats include Bentley Microstation .dgn format and Bentley

InRoads.alg and dtm format, Microsoft Word®, Microsoft Excel®, ArcMAP, or searchable portable document format (PDF) files, with no copy or password protection on the file content, unless otherwise indicated in a specific section of this Part 3 - Project Requirements or a Standard cited in a specific section of this Part 3 - Project Requirements.

1.8 INDICATIVE PLANS

The Indicative Plans, if provided to the Design-Builder in Part 6 – RFP Plans, convey an overall potential solution to the Project's needs that the Design-Builder may choose to consider in developing its design. The designs presented herein, have been developed to a point sufficient to present the general concepts of the Project and specifically to show the current highway boundaries and the extent of property acquisitions provided by the Authority. The Indicative Plans are not mandatory, with the exception of elements specifically mentioned elsewhere in this Part 3.

1.9 DIRECTIVE PLANS

The Directive Plans, if provided to the Design-Builder in Part 6 – RFP Plans, depict required elements and components of the Project within specifically defined parameters. The Design-Builder has no latitude to adjust components or details shown on Directive Plans, unless specifically noted or through an approved Alternative Technical Concept (ATC).

1.10 CADD

CADD formatting for Design and As-Built Plans shall conform to the Authority's CADD Drafting Standards and CADD Design Standards in effect on the Proposal due date.

1.11 SCHEDULE OF PROJECT COMPLETION

All work on the design and on the construction shall be completed in accordance with Part 1, DB Agreement, Article 2, Contract Time, but in no case shall the Project Completion Date be later than October 15, 2020.

1.12 WORK PAYMENT SCHEDULES

Progress Payments will be made as each Work Item is completed to the satisfaction of the Authority's Construction Quality Assurance Engineer. Progress payments shall be subject to the requirements of DB §109-2. Payments for Design, Construction Inspection and Laboratory activities will be made in conformance with DB § 109-2.2.

Example : WORK PAYMENT SCHEDULE – (SITE 1 or BIN xxxxxxx)		
WORK ITEM	**MAXIMUM PERCENT OF LUMP SUM PRICE**	**PERCENT OF LUMP SUM PRICE (To be completed by D-B)[1]**
Demolition and Removal of Existing Bridge Elements	5%	
Demolition and Removal of Existing Approach Slabs	2%	
Construct Pier and Abutment Foundations	10%	
Construct Pier	8%	
Construct Abutments and Wing Walls	13%	
Fabricate and Install Bearings and Superstructure	12%	
Construct Reinforced Concrete Bridge Deck Slab, Sidewalk and Curbs	15%	
Construct Reinforced Concrete Approach Slabs	3%	
Construct Drainage System	4%	
Reconstruction of the bridge approaches, including curbs and a sidewalk	10%	
Fabricate and Install Roadway Lighting and Signage	3%	
Fabricate and Install Bridge Rail, Approach Guide Railing and Fencing	5%	
Punch list work, Site Cleanup and Restoration	2% (fixed)	
Final Acceptance (Per DB §109-12.1)	1% (fixed)	
Final Agreement (Per DB §109-12.2)	2% (fixed)	

Notes: (1) See Work Payment Schedule included in ITP, Appendix E, for all Bridges/Job's.

(2) Subsequent to Selection of Best Value, the Design-Builder may submit to the Authority a more detailed Work Payment Schedule which breaks individual work items into multiple stages, for the Authority''s review and acceptance.

3) Work Payment Schedules are provided for every bridge in the format shown above but potentially not exactly the same.

1.14 DEFINED COMPLETION MILESTONE

This Project's Defined Completion Milestones, if applicable, are defined as shown in Part 5 – Special Provisions.

The Defined Completion Milestone Dates may not be changed without written approval by the Authority's Project Manager.

SECTION 2 PROJECT MANAGEMENT

2.1 DESIGN-BUILDER'S ROLE

The Design-Builder shall have responsibility for controlling and managing the Work, including the responsibility for quality management as defined in the Contract Documents, Part 2 - DB §§ 111, 112 and 113. This section identifies the Design-Builder's Key personnel and summarizes the Management Plans to be produced by the Design-Builder in accordance with the Contract Documents.

2.2 DESIGN-BUILDER'S KEY PERSONNEL

The positions listed below shall be the Design-Builder's key personnel for the Project. Key Personnel are preferred to have experience on projects of a similar size, type of work, and complexity as this Project, and should meet the qualifications described below. Proposed staff with qualifications less than those described below will receive a reduced score compared to staff that meet or exceed the described qualifications. Any requirements described as "**shall** have..." or "**shall** be…"are determined to be minimum response requirements. The Design-Builder shall provide personnel that meet these minimum requirements.

The Design-Builder's Project Manager shall be the Design-Builder's representative and single point of contact with the Authority.

The Authority's Project Manager may designate other Key Personnel positions as needed at any time during the Contract.

A) **Project Manager**: **Shall** have a minimum of 10 years, but preferably 15 years, demonstrated experience in construction and construction management of bridge and/or transportation and/or infrastructure projects should preferably be of similar size and type of work as this Project, and preferably including with compressed timelines, and community information requirements. Such experience in construction and management-of-construction should include at least one bridge infrastructure construction project having a construction value in excess of $20,000,000. The Project Manager, who should have Design-Build experience and have extensive project management experience, can hold only this one Key Personnel position. It is preferred, but not required, that this individual be licensed and currently registered as a Professional Engineer in the State of New York. The Project Manager **shall** dedicate no less than 50% of their work time to this Project.

B) **Design Manager**: **Shall** be licensed and currently registered as a Professional Engineer in the State of New York, **shall** be an owner or employee of the Designer and **shall** have a minimum of 15 years demonstrated experience in managing design for infrastructure and bridge projects preferably of similar scope as this Project. The Design Manager should preferably have Design-Build experience, and should have specific experience on projects of similar size and type. The Design Manager can hold only this one Key Personnel position. The Design Manager **shall** dedicate no less than 75% of their work time to this Project.

C) **Quality Manager**: **Shall** have demonstrated experience in bridge design and infrastructure construction with at least 10 years experience in quality assurance and quality control activities, including preparation and implementation of Quality Plans and

procedures for design and construction. The Quality Manager can hold only this Key Personnel position. The Quality Manager **should** have experience of quality systems based on ISO 9001, and should have experience with the quality systems of the Authority and the Department of Transportation. The Quality Manager **shall** dedicate no less than 40% of their work time to this Project.

D) **Resident Engineer**: Shall be licensed and currently registered as a Professional Engineer in the State of New York and should have a minimum of 10 years, of demonstrated experience in managing the site work of bridge replacement and highway construction and reconstruction projects inspection, including at least 5 years as a Resident Engineer. Experience should preferably include Design-Build contracts. The Resident Engineer can hold only this one key personnel position. The Resident Engineer **shall** have performed Resident Engineer duties on a project within the last 3 years.

E) **Resource Provider**: Should be licensed and currently registered as a Professional Engineer in the State of New York and should have a minimum of 10, but preferably 15, years of demonstrated construction experience in civil works projects with experience in managing the site work of bridge replacement and highway infrastructure construction projects. Experience should include work of the nature anticipated in this Project, and should include Design-Build contracts. The Resource Provider should dedicate no less than 50% of their work time to this Project. This individual shall have the authority and expertise needed to move personnel, resources, and equipment to implement recovery actions that may be required due to any unanticipated delays in the Project schedule.

F) **Lead Structural Engineer**: **Shall** be licensed and currently registered as a Professional Engineer in the State of New York and **shall** have demonstrated at least 10 year's experience in structural analysis and design of new and replacement bridges.

G) **Lead Civil Engineer**: **Shall** be licensed and currently registered as a Professional Engineer in the State of New York and **shall** have at least 10 year's experience in civil roadway design, including congestion management and the preparation of Work Zone Traffic Control Plans.

H) **Lead Hydraulic Engineer: Shall** be licensed and currently registered as a Professional Engineer in the State of New York and shall have at least 5 year's experience in the hydraulic evaluation of bridges over water.

I) **Lead Geotechnical Engineer**: **Shall** be licensed and currently registered as a Professional Engineer in the State of New York and **shall** have a minimum of 10, but preferably 15 years of experience which should include the following: planning and overseeing subsurface exploration programs for highway structures/facilities; the development of design soil/rock profiles, for the purpose of geotechnical analysis, design, and construction; design of structure foundations and earth support structures; analysis and design for static and dynamic (seismic) loading under current LRFD; analysis and design of mitigation measures for embankment settlement and stability; analysis and design of both temporary and permanent earth support structures; and interpreting geotechnical instrumentation programs.

J) **Project Superintendent**: Should have at least 5, but preferably 10 years of demonstrated experience overseeing work on bridge and highway construction projects.

Experience should include directing and coordinating the activities of a contractor's workforce and all subcontractors, ensuring work progressed according to schedule, within budget and that material and equipment were delivered to the site on time. The Project Superintendent should have experience as Project Superintendent on a bridge project valued at $10M or more.

2.3 MANAGEMENT PLANS AND SCHEDULES

2.3.1 Management Plans and Schedule Requirements

The Design-Builder shall submit to the Authority's Project Manager, for review and comment or approval (as applicable), all the Management Plans listed in Table 2-1. Following receipt of the Authority's acceptance or approval of the individual Management Plans, as described in the Contract Documents, the Management Plans shall be resubmitted to the Authority's Project Manager as the Design-Builder's consolidated Project Management Plan for the Project.

Table 2-1 – Project Management Plans

Plan Title	Contract Document Reference	Initial Plan Submitted with the Proposal?	Submittal Deadline
Workforce Participation Plan	DB § 102-9.4B	No	60 Days after NTP
Safety Plan*	DB § 107-7.5	No	30 Days after NTP or 30 days prior to beginning any construction Work
Quality Control Plan*	DB § 113	Yes	45 Days after NTP
Overall Design-Build Team Organization Plan	Project Requirement Section 2.3.5	Yes	25 Days after NTP
Design Management Plan	Project Requirement Section 2.3.6	No	30 Days after NTP
Construction Management Plan	Project Requirements Section 2.3.7	No	45 Days after NTP
Initial Baseline Progress Schedule	Project Requirements Section 2.4	Yes	15 Days after NTP

* Requires Authority approval

2.3.2 Workforce Participation Plan

The Design-Builder shall develop a Workforce Participation Plan to meet the requirements of DB §102-9.4B and submit it to the Authority's Project Manager for review and comment.

2.3.3 Safety Plan

The Design-Builder shall develop a Safety Plan to meet the requirements of Part 2, DB §107-7.5 and submit it to the Authority's Project Manager for written approval in accordance with DB §107-7.7. No construction Work shall progress and no payment shall be made to the Design-Builder until the Safety Plan is approved by the Authority.

2.3.4 Quality Control Plan

The Design-Builder shall use the Initial Quality Control Plan submitted with the Technical Proposal, modify and develop it, as necessary, to include the content required by Part 2, and submit it to the Authority's Project Manager for written approval in accordance with Part 2 DB §113. The Quality Control Plan shall be revised and resubmitted to the Authority's Project Manager within 14 calendar days of receipt of the Authority's written comments and resubmitted as required until Approved by the Authority's Project Manager. No offsite fabrication Work or Construction Work shall commence before the Quality Control Plan has been approved by the Authority's Project Manager. No payment will be made to the Design-Builder until the Quality Control Plan has been approved by the Authority.

2.3.5 Overall Design-Build Team Organizational Plan

The Design-Builder shall update the Initial Overall Design-Build Team Organization Plan by combining the Organizational Structure Chart and the Communication Protocol Graphic and narrative and expanding upon these initial submittals into a more comprehensive document. It shall describe the design and construction organizational arrangements it intends to implement. The organizational arrangements described should clearly identify responsibilities and reporting lines of staff, particularly relating to Key Personnel.

The Design-Builder shall include an organization chart and communication protocol graphic (on an 11" x 17" sheet of paper), illustrating the Proposer's Key Personnel and their prospective roles and responsibilities, as well as other principal participants and any known Subcontractors having a material role in the Project's design Work, design check Work, construction Work and construction inspection Work.

The Design-Builder shall describe the interrelationships and interfaces between each discipline within the Proposer's organization (e.g., design, design check, shop drawing preparation and review, construction, and quality management).

The Overall Design-Build Team Organization Plan shall also describe the interrelationships and interfaces between the Design-Builder's organization, the Authority and other governmental agencies, utility owners, stakeholders, businesses, the public and other contractors working in the vicinity and impacted by the construction of the Project. This description shall also, at a minimum, address the following activities:

A) Reviews of plans and permits;

B) Progress, workshop, partnering and utility coordination meetings; and

C) Construction, engineering and inspection activities.

2.3.6 Design Management Plan

The Design-Builder shall provide a Design Management Plan and submit it to the Authority's Project Manager for Review and Comment.

The Design Management Plan shall include the Design-Builder's approach to managing the Project, including:

A) The Design-Builder's understanding of the Project Requirements.

B) The Design-Build Team's organizational structure and lines of responsibility.

C) The Design Builder's approach to delivering the Project, including how the Design-Builder will address logistical challenges of the Project, scheduling to complete the Project on time and on or under budget with emphasis on quality, design, and construction.

D) How the Design-Builder will manage and coordinate the design, design quality control and design reviews.

E) The means of reporting on the design progress; the means of tracking quality control reviews and the resolution of comments on the design and describes how design non-conformance issues will be resolved.

F) How the design effort will be coordinated with construction activities and construction means and methods for the Project.

G) A description of the proposed methods to control the design progression for the overall project to support the construction schedule.

2.3.7 Construction Management Plan

- The Design-Builder shall provide a Construction Management Plan, which may include relevant material submitted with its Proposal and submit it to the Authority's Project Manager for Review and Comment.
- The Construction Management Plan shall provide how well the Design-Builder understands and is organized to manage construction, construction quality control.
- The tools that will be implemented to provide seamless interaction with the Authority's Construction Quality Assurance Engineer for the construction of a quality Project.
- Provides how the progress of the construction work is reported to the Authority.
- Provides how non-conformance issues in construction will be resolved; provides the method of updating the Baseline Schedule.
- Provides how the work will be progressed in coordination with other agencies.
- Provides the methods of maintaining detours.
- Explains how the interaction with the Construction Inspection Professional Engineering Firm and the Materials Testing Firm/Laboratory will occur and how these firms will contribute to the Construction Management and quality of the Project.

2.4 BASELINE PROGRESS SCHEDULE

The Design-Builder shall submit the Initial Baseline Progress Schedule that was submitted with the Technical Proposal, including any updates that may be necessary due to a NTP date change.

In addition, the Design-Builder shall expand and develop the Initial Baseline Progress Schedule in accordance with DB §108-1 and Part 5, Special Provision SP-3.

Design shall be considered complete when all Design related documents have been completed and accepted by the Authority including: all calculations, specifications, records of design quality control reviews and procedures; descriptions of and justification for any non-standard features created or retained as a result of the design; resolution of any non-conformance reports; and submission of "As Built" drawings.

Construction shall be considered complete when: the entire Scope of Work has been completed; any damage to the area caused by the Design-Builder's performance of the Work has been repaired to the satisfaction of the Authority; all construction quality control documents, test and inspection reports and forms have been completed; As-Built drawings have been completed; and the work site(s) have been cleaned of any debris.

2.5 MEETINGS

The Design-Builder shall convene or participate in meetings as indicated in Part 2 DB §105-17.

It is the Authority's policy to use the principles of partnering to guide the management of Design-Build contracts and the Design-Build program within the parameters covered by the laws, regulations, and other policies that govern the work. The Design-Builder shall convene or participate in meetings designed to foster the principles of partnering in accordance with Part 2 DB §103-2.

The Design-Builder shall record the minutes for each meeting.

2.6 COMPUTER AND NETWORKING REQUIREMENTS

The Authority will issue connection accounts to the Design-Builder and its Construction Inspection Professional Engineering Firm to Projectwise and Cee's program.

The Design-Builder shall provide ALL Computer and Networking equipment to the CIPEF and staff, as necessary. The Design-Builder will need to provide high-speed communication into the CIPEF office for all users. It is recommended that the Design-Builder test the network connection success prior to fully equipping its staff and the CIPEF firm, to ensure both hardware and software compatibility.

The following computer related specifications reflect the current technology utilized by the Authority and shall be provided to the Authority Construction Quality Assurance Staff. By the Design-Builder:

Hardware

- Processor: Intel® Core i5-6300U (Dual Core, 2.4GHz, 3M cache, 15W, vPro), or better
- Memory: 8GB DDR4 Memory, 1X8GB, 2400, Non-ECC, or better
- Hard Drive: M.2 256GB SATA Class 20 Solid State Drive, or better
- Graphics: Intel® HD Graphics 520 for Si5-6300U, or better
- Display: LCD Non-Touch FHD (1920 x 1080) LCD w/HD Cam (WLAN), or better
- Wireless: Intel 8265AC WW WLAN Bluetooth, or better
- Mobile Broadband: Wireless WAN Card

- Service: 3 Years Hardware Service with In-Home/Onsite Service After Remote Diagnosis
- Mouse
- Carrying Case

Software:

- Windows 10.0 Pro (64 bit edition)
- Microsoft Office 2016 Professional Edition, or later version
- WinZIP 20, or later version
- Norton Internet Security (latest version for Windows 10) set up to run in Auto-Protect Mode and Auto-Update Mode (monthly), or McAfee Internet Security (latest version)

Additional Software:

- Microsoft Photo Editor (latest version)
- Adobe Acrobat Pro (latest version)

A Total of 6 complete packages of Hardware, Software, and additional software shall be provided.

2.7 AUTHORITY'S CONSULTATION AND WRITTEN COMMENTS

The Authority's review, oversight, audit, and inspection activities are referred to as "consultation and written comment" (see Part 2, DB §105-16). The Authority's consultation and written comment will be provided to the Design-Builder in writing. The Design-Builder shall be responsible for addressing the Authority's comments and shall indicate in writing whether it concurs with the comments. If the Design-Builder does not concur with the Authority's comments, then the Authority and Design-Builder will work together to resolve the issue before proceeding.

If agreement cannot be reached, the issue must be resolved as provided in the Contract Documents for dispute resolution in accordance with Part 2 DB §109-10.

2.8 PROJECT WISE

ProjectWise is the preferred platform to be used to organize, manage, distribute/share and archive electronic Project design documents for NYSTA. However, the Design-Builder may propose to utilize another internet-based platform for these purposes, subject to the Authority's acceptance. The documents to be posted to the selected platform typically include but are not limited to:

- Final design report and any modifications predicated by the Design-Builder's actions;
- All studies and supporting reports;
- Permits;
- Survey and ROW mapping;
- Photos taken prior to and during design;
- CADD and 2D/3D models files including current NYSTA- supported Microstation and InRoads file formats;
- Engineering calculations to support designs;

- All electronic plan sheets;
- Engineer of Record's estimate based on Payment Breakdown Structure; and
- Public Information.

All files posted to the selected platform shall be in accordance with the file naming convention and submission procedures as defined in Appendix 14 of the NYSDOT Project Development Manual.

The Design-Builder shall ensure that all electronic design documents are stored on the selected platform. Updates of engineering documents shall be provided on a monthly basis.

Regardless of the platform utilized during the progression of the Project, prior to Project completion all files shall be posted to ProjectWise in accordance with the criteria listed above.

The Design-Builder may obtain a ProjectWise account by contacting the Authority's Project Manager and providing the required account information per Appendix 14 of the NYSDOT Project Development Manual.

SECTION 3 ENVIRONMENTAL

3.1 SCOPE

Except as otherwise detailed herein, the Design-Builder shall be responsible for preparing its design, obtaining environmental approvals, carrying out construction activities, performing Quality Control, and undertaking other activities, including hazardous materials inspection and testing, as needed to ensure compliance with the Project's Environmental Requirements and all applicable environmental laws and regulations.

This Project Requirement identifies certain required actions to be performed by the Design-Builder to ensure that the Environmental Requirements are complied with throughout the duration of the Project.

3.2 ENVIRONMENTAL APPROVALS

The Authority has determined that this project is a SEQRA Type II Action in accordance with 6 NYCRR, Section 617. No further SEQRA processing is required.

The Authority has not secured any environmental permits associated with this Project. It is the Design-Builder's responsibility to secure all environmental permits associated with and required for construction of this Project.

It is advisable that the Design-Builder hold a pre-application meeting with NYSDEC and/or the USACE as appropriate, within 60 days from NTP.

The Design-Builder may request a review by the Authority of any permit/approval applications which must be submitted to third parties. For any such review requested, the Design-Builder shall allot five (5) business days for the Authority to review and comment on the completeness and adequacy of the application materials. It shall then be the Design-Builder's discretion to address any Authority comments or elect to move forward with the application materials as submitted.

If during detailed design and/or construction the Design-Builder introduces design elements, variations, or methodologies that potentially induce environmental impacts not covered under the obtained approvals/permits, then the Design-Builder shall re-evaluate the SEQRA process for this Project and obtain the necessary Environmental Approvals/Permits for the Project prior to proceeding with construction. This requirement also applies to proposed variations which may affect, cultural resources, endangered species and wetlands, and other applicable federal and state environmental regulations.

3.3 REQUIREMENTS

3.3.1 General

A) The Design-Builder shall procure all Environmental Approvals as needed for all Design-Builder-located areas, including staging, borrow and disposal sites, and any other areas used by the Design-Builder, for its convenience, in the execution of the Project;

B) The Design-Builder shall be responsible for preparing all permit application materials and obtaining all Environmental Approvals necessary for the Project and not already obtained by the Authority, including those that are precipitated by the Design-Builder's design or

actions that deviate from the requirements of any acquired permit(s) (if any). For any such approvals required to be obtained by the Design-Builder that must formally be issued in the Authority's name, the Authority will cooperate with the Design-Builder as reasonably requested by the Design-Builder, including execution and delivery of appropriate applications and other documentation as prepared by the Design-Builder;

C) The Design-Builder shall be solely responsible for compliance with and violations of any Environmental Requirements; and

D) The Design-Builder is responsible for any fines, non-compliance, violations, or damages incurred by reason of failure of the Design-Builder to comply with Environmental Approvals. Resulting fines or damages shall be deducted from monies owed the Design-Builder.

E) NYSDEC Article 15 – Streams

Although the Authority is exempt from obtaining Article 15 permits, all work in or within 50 feet of a stream must comply with the conditions of the Article 15 permitting

In-water work must occur between the allowable work periods listed in Table 3-1, NYSDEC Article 15 Stream Classifications and Allowable Work Periods, unless waived in writing by the NYSDEC.

Table 3-1 – NYSDEC Article 15 Stream Classifications and Allowable Work Periods

BIN	Road	Stream/Feature crossed	Classification	Allowable Work Period
1020079	I-90/Mohawk St.	Mohawk River (in project area)	Class B	July 16-February 28
5516072 & 5516071	I-90/Millers Grove Road	Bridenbecker Creek (in project area)	Class C	July 16-February 28
5512980	Judd Road/I-90	Oriskany Creek (in project area)	Class B9(t)	June 1-September 30
5512790	N. Main St/I-90	Canastota Creek (in project area)	Class C	July 16-February 28
5510130*	I-90/Bear Trap Creek	Bear Trap Creek	Class C(t)	July 16-February 28

*BIN 5510130 – Bear Trap Creek is regulated by the United States Army Corp., and authorization from the USACE may be required depending on the Design-Builders extent of work.

3.3.2 Environmental Plans

The Design-Builder shall be responsible for preparing the following documents in conformity with all Environmental Requirements:

A) State Pollutant Discharge Elimination System (SPDES) Permit application; see Soil Erosion and Water Pollution Control;

B) Stormwater Pollution Prevention Plan (SWPPP).

3.3.3 Soil Erosion and Water Pollution Control

The Design-Builder shall prepare and maintain on file a SWPPP complying with the New York State SPDES General Permit for Stormwater Discharges from Construction Activities (GP-0-15-002 or current version). The SWPPP is to include but is not limited to construction entrance(s), construction phasing, drawings showing size and location of permanent (e.g., swales, check dams, etc.) and temporary (e.g., silt fence, temporary seed, mulch, etc.) erosion controls, and details. The SWPPP shall include plans and details for water quality volume, runoff reduction volume, stream channel protection, overbank flood, and extreme flood controls, as appropriate. The Design-Builder shall apply for coverage under the SPDES General Permit for Stormwater Discharges from Construction Activities after preparing a compliant Erosion Control Plan and SWPPP as noted. The Design-Builder shall prepare the final SWPPP and a conforming Notice of Intent (NOI), sign/complete the Contractor/Subcontractor SPDES Permit Certification form (CONR 5), and submit the NOI to the Authority for Owner/Operator Certification prior to submission (to the Authority for the Owner/Operator Certification prior to submission to NYSDEC for approval. The Design-Builder shall allot five (5) business days for the Authority to review and sign the Owner/Operator Certification.) Discharges covered under the SPDES general permit shall not commence until the date authorized on the SPDES Acknowledgement Letter from NYSDEC.

3.3.4 Threatened And Endangered Species Coordination

The Design-Builder shall be aware that the Indiana bat and northern long-eared bat (NLEB) occur in the project area and are protected under the Endangered Species Act of 1973. To avoid adverse effects on the bats, any removal of trees 3" or greater in diameter at breast height (dbh) and may only occur during the period between October 31st and March 31st. In addition, a determined number of replacement trees shall be planted upon completion of the bridge replacement work. See Section 11 for replacement conditions.

3.3.5 Asbestos Containing Materials

An Asbestos Screening and Assessment of the impacted right-of-way and structures was performed by a NYS Department of Labor licensed firm using certified inspection staff. Asbestos-containing materials identified during this screening/assessment were sampled and positively analyzed for asbestos content; suspect asbestos-containing materials (ACM) are presumed positive. The complete Asbestos Containing Material Survey, dated February 2017, is located in Part 7 – Engineering Data.

The Design-Builder shall be responsible for the abatement design, asbestos abatement, waste disposal and any required project monitoring/compliance air sampling during abatement of all confirmed and assumed asbestos containing materials if such materials will be disturbed during the performance of the Work. All asbestos abatement and waste disposal shall be performed in accordance with applicable safety and health codes and all applicable State and Federal regulations. See also DB Section 112-5.5, Asbestos.

The Design-Builder (in particular, the lead constructor on the Design-Build team) is also made aware that 12 NYCRR 56 specifically prohibits the abatement contractor from directly contracting project monitoring and/or compliance air monitoring services. In order to comply with this regulatory requirement, no Principal Participant may perform any asbestos abatement work. The Design-Builder will need to subcontract asbestos abatement and project monitoring/compliance air sampling services to separate and independent firms.

If during the course of work, any asbestos-containing materials not already documented in the asbestos screening/assessment report or Project record plans are encountered and require disturbance, the Design-Builder shall be responsible for any needed additional asbestos assessment, abatement design, asbestos abatement, waste disposal, and project monitoring/compliance air sampling. All additional work shall be paid for under the Force Account pay item.

New York State Department of Labor (NYSDOL) asbestos licensure and applicable staff certification(s) are required for Work where confirmed or presumed asbestos-containing materials are impacted. All necessary asbestos assessment and Project design Work shall be performed in conformance with policy and guidance provided in NYSDOT's The Environmental Manual (TEM).

Any ACMs associated with private utilities located within the Project limits shall be the responsibility of the private utility owner. The Design-Builder shall coordinate with the private utility owners for the remediation of any ACMs which may be identified.

3.3.6 Environmental Plan Deliverables

Deliverables shall be as stated elsewhere in the RFP documents.

SECTION 4 GENERAL PROJECT SCOPE OF WORK

4.1 SCOPE

The Design-Builder shall perform all Work necessary to prepare the Project sites for construction, maintain the sites in suitable condition during all stages of construction and provide cleanup and restoration of the construction sites and all disturbed areas.

4.2 STANDARDS

The Design-Builder shall perform the Work in accordance with the applicable Standards, Design Codes and Manuals cited in Section 1.6, unless otherwise stipulated in this Project Requirements, or otherwise applicable to the Project.

4.3 REQUIREMENTS

The Design-Builder shall prepare site work plans showing the extent of site works; disposal and storage locations; facility removal details; and approximate volumes; and shall provide for uninterrupted Authority maintenance and operations. All regulated waste shall be handled according to Section *3 – Environmental Compliance*.

The site work may include but not be limited to: clearing and grubbing; excavation and embankment; removal of pavement and pavement markings, road barriers, soil, drainage facilities, fencing, signs, and miscellaneous structures; subgrade preparation and stabilization; dust control; removal of abandoned above-ground and shallow piping and wiring, valves, meters, and other waste materials; and aggregate surfacing.

Unless specified otherwise in the Contract Documents, the Design-Builder shall remove all obstructions down to a minimum of 2 feet below the existing or proposed surrounding ground elevation or to the elevation necessary to properly construct the Work, whichever is lower.

The Design-Builder shall grade and restore all disturbed areas to match the existing surrounding ground elevation unless otherwise specified elsewhere in the Contract Documents. The Design-Builder shall cut pavement or sidewalk to full depth with straight lines at removal terminations.

The Design-Builder shall over-excavate as necessary to remove unsuitable material from under the footprint of pavements and structures and backfill with properly compacted suitable material. Topsoil may be stripped, stockpiled, and reused within the Project Limits.

The Design-Builder may only reuse materials on the Project that meet the requirements for grading and backfill materials. Disposal of obsolete, unsuitable, and surplus material is not allowed within the Right-of-Way and shall be removed.

4.3.1 Field Office

The Design-Builder shall provide, furnish and maintain a Field Office for use by the Authority in accordance with the Authority Standard Specifications. The Field Office shall be a Type 1 Office as described in Item 637.1100025.

4.3.2 Salvage

All materials removed from the Project site shall become the property of the Design-Builder, unless specifically stated elsewhere in this Part 3 - Project Requirements.

4.3.3 Surplus Quantity

Section not used.

4.3.4 Sidewalk Plowing Coordination During Winter Shutdown

Prior to the end of the construction season, the Design-Builder shall provide the Authority a list of new sidewalks that are open to the public that will need to be plowed by the municipality during the winter months. Before winter shutdown, the Design-Builder shall ensure that all sidewalks are free and clear of obstructions, barricades, fixed objects, etc. that would interfere with the snow plowing effort.

SECTION 5 SURVEYING AND GIS

5.1 SCOPE

The Design-Builder shall perform all surveying tasks necessary to undertake and complete the Project including but not limited to: acquisition of terrain data (topography); mapping of roadways and appurtenances, features, bridges, and utilities as needed; locating boundaries; waterway surveys; contract control plan; construction and stakeout surveys; As-Built surveys; surveys that arise from other Project Requirements; asset inventory; and all other surveying services as necessary.

5.2 STANDARDS

The Design-Builder shall perform the surveying activities in accordance with the applicable Standards, Design Codes and Manuals cited in Section 1.6, unless otherwise stipulated in this Project Requirement or otherwise applicable to the Project.

5.3 REQUIREMENTS

5.3.1 Project Survey Control

Survey control, if available, will be provided as Reference Documents. The Design-Builder may supplement that information or conduct complete new survey as necessary to perform all the necessary surveys required to complete the Project, as the Design-Builder deems appropriate.

5.3.2 Authority -supplied Data

The Authority will provide the Design-Builder with the following Survey-Related Data as Reference Documents:

- ROW / Highway Boundary Geometry;
- Survey / Photogrammetric Base Mapping Planimetrics;
- Survey / Photogrammetric Digital Terrain Model; and
- Record Plans.

The Design-Builder shall be responsible for verifying any data used for the Project.

5.3.3 Survey Reports, Records and Maps

The Design-Builder shall submit to the Construction Inspection Professional Engineering Firm, all information listed under the '*Documentation*' sub-section of each chapter of the NYSDOT *Land Surveying Standards and Procedures Manual* that is applicable to its survey work. The Design-Builder shall index and submit all calculations, notes, computer files, raw data, Project reports, meeting notes, correspondence, digital images, maps, corner records, records of survey, aerial photogrammetric products, centerline alignment maps, and other maps and related items.

The Design-Builder shall be responsible for ensuring that information submitted is compatible with the applicable NYSDOT/NYSTA CADD standards, software and operating systems and formats.

All survey reports and maps, including bathymetric survey plans, shall be signed-and-sealed by a New York State licensed professional land surveyor.

5.3.4 Permanent Survey Markers

This Section not used.

5.4 SURVEYING AND GIS DELIVERABLES

Deliverables shall be as stated elsewhere in the RFP documents.

SECTION 6 RIGHT-OF-WAY

6.1 SCOPE

Plans showing the existing Authority owned Right-of-Way (ROW) are included in the Reference Documents. The Design-Builder shall perform all the permanent Project Work within the existing Authority owned ROW.

Property releases for driveway reconnections or other work that is required are the responsibility of the Design-Builder, in close coordination with the Construction Quality Assurance Engineer.

Right of ownership of all ROW and the improvements made thereon by the Design-Builder shall remain at all times with the Authority. The Design-Builder's right to entry and use of the ROW arises solely from permission granted by the Authority under the Contract.

6.2 REQUIREMENTS

6.2.1 Right-of-Way Fencing

Any ROW fencing that has been damaged due to construction of the Project or removed by the Design-Builder shall be replaced by the Design-Builder with new ROW fencing meeting current Authority standards.

6.2.2 Property Interests Identified by the Design-Builder for its Convenience

The Design-Builder shall be responsible for the acquisition and all costs associated therewith for any temporary land or other property required for the Design-Builder's convenience outside the ROW Limits, such as for staging, lay-down, access, office space, temporary works, or other purposes. The Design-Builder shall assume responsibility for satisfying all Federal and State regulations, identifying, analyzing, and documenting the environmental impacts associated with the additional space and securing all necessary consent, including that of the Authority, prior to initiating use of the space, in accordance with *DB* §*107-22*.

6.2.3 Right of Way Markers

The Design-Builder shall monument all Permanent Easements and FEE acquisitions and provide new ROW markers for missing ROW markers with similar concrete monuments at that bridge site in accordance with the Authority Standard sheets, Highway Design Manual, and NYSDOT ROW Mapping Procedure Manual.

SECTION 7 PUBLIC INVOLVEMENT

7.1 SCOPE

The goal of the public involvement activities is to inform the public and Authority participants by providing timely information throughout the design and construction process. The Design-Builder shall be responsible for supporting and cooperating with the Authority for all public involvement activities.

7.2 STANDARDS

The Design-Builder, in close coordination with the Authority, shall perform the Public Involvement activities in accordance with the NYSDOT Project Development Manual: Appendix 2, Public Involvement Manual.

7.3 REQUIREMENTS

7.3.1 Public Outreach

The Design-Builder shall have the primary responsibility for performing public outreach activities for the Project, but the lead in all public outreach activities shall be the Authority. All public outreach activities shall be coordinated through the Authority's Construction Quality Assurance Engineer (CQAE). All public communication activities must be reviewed and approved by the Authority. This includes communication and notifications of key stakeholders (motorists, general public, area residents, educational institutions, emergency services, businesses, etc.) of road closure information, Project milestones or Project construction related activities that have the potential to affect the general public and/or residents in proximity to the Project area. Project milestones include, but are not limited to: the visible start of construction activities; travel pattern changes; significant Project accomplishments, any potential schedule delays and construction completion.

The Design-Builder shall be aware that outreach to the public is a critical component to the successful completion of any NYSTA project. Design-Build projects by their nature introduce unknowns and variables that the public is not aware of due to the fact the design is not complete. In an effort to offset those potential concerns and anxieties that a yet fully vetted design could create, in the eyes of the public, outreach to the public shall commence early on this project. The Design-Builder shall be prepared to meet with appropriate stakeholders and the elected officials and the general public in March of the calendar year in which the work on the bridges is set to begin or 30 days prior to the start of construction whichever is greater. The Authority remains the lead on this activity but the Design-Builder will assist in coordinating the logistics, preparing the presentation material, the announcement of the meeting(s), and other outreach efforts necessary to capture the community's interest and participation. The Design-Builder shall be prepared at this time to discuss the design, the reason for said design, the construction methods, the schedule of the construction contract, the time periods of the day that the work will be on-going, and how traffic and pedestrians will be accommodated, as a minimum. This will all be coordinated with the Authority's Project Manager and the discussion of this meeting and coordination will begin at the Design Workshop and shall be so listed as an agenda item for the Design Workshop.

The Design-Builder shall coordinate with and provide a minimum of two weeks advance notice to the CQAE prior to all changes to traffic patterns and the following Project milestones: start of

construction; Project completion; and any other interim completion milestone(s) determined by the Authority.

The Design-Builder shall provide the Authority with a minimum of two weeks advance notification for each public information activity (press announcements, travel advisories, VMS postings, etc.) to allow for proper review and comment by the Authority.

The Design-Builder shall provide the Authority's CQAE with a written work Schedule (including anticipated traffic changes) two weeks in advance of work that will change traffic patterns.

7.3.2 Media Relations

Media Inquiries: All media inquiries, requests for interviews from local print or broadcast news media, trade magazines or other media outlets must be referred to the CQAE for direction. The Authority will coordinate and respond to all media requests. The Design-Builder shall alert all project personnel about this policy.

Travel Advisories: To allow for timely notice to the public, two weeks advance notice of the start of work, any lane closures, road closures, or changes to traffic patterns is required to be given to the CQAE and the Authority's Project Manager.

Notifications referenced above are in addition to the written work schedule discussed in Section 7.3.1. The Authority will develop a draft travel advisory for content and quality review by the Design-Builder and other Authority staff as deemed appropriate. The travel advisories will be finalized and distributed to the press and appropriate state elected officials, and posted on the Project website by the Authority. However, the Design-Builder is responsible for the notification of local public officials, emergency service providers, schools, residents, businesses, and other affected parties, of any major travel pattern change.

The strategies described above are consistent with the requirements of Part 3 Section 15 – Work Zone Traffic Control and Access, and shall include Construction Bulletins published by the Authority, based on information provided by the Design-Builder, especially focused on traffic changes, night time work, higher-noise construction periods or locations, or other construction activities of potential concern to the public. The Design-Builder shall be responsible for interaction with the affected homeowners, tenants and businesses with regards to issues including but not limited to, security of and access to their property or properties, utility services, night time operation, etc.

7.3.3 Public Information Meeting

The Design-Builder shall be prepared to partner with the Authority on additional Public Information Meeting(s) to discuss the Project's progress with the community in an open forum format. The Design-Builder shall prepare design and construction-related information about the Project and the Design-Build process and progress, schedule or construction methods being used to advance the Project, etc., that will help inform Project stakeholders. The Design-Builder shall work in cooperation with the CQAE in determining the necessary presentation materials, but PowerPoint material shall be required.

Project update meetings including public informational meetings, as discussed above, may be required during the course of construction, depending on how smoothly the Project is progressing and the community(s) reaction and receptiveness to the construction of the Project.

It is anticipated that the replacement of two (2) bridges will require public informational meetings. BIN 5512980 and BIN 5512790 are anticipated bridges requiring such meetings. Others may be necessary.

SECTION 8 UTILITIES

8.1 SCOPE

The utility requirements set forth in Part 4 – Utility Requirements and DB §102-5 present the Design-Builder's responsibilities as they relate to existing and/or new utilities, the manner in which utilities shall be protected, relocated, upgraded, constructed or incorporated into the construction, and responsibilities for the Work.

8.2 STANDARDS

The Design-Builder shall perform all utility activities in accordance with the Contract Requirements, the applicable Standards, Codes and Manuals listed in Section 1.6 or otherwise applicable to the Project, and the standards required by the various utility companies affected by the work.

8.3 GENERAL REQUIREMENTS

The Design-Builder shall examine the record plans of the work site, make a field survey of the work site and examine all other available documents to determine the type and location of all utilities that may be affected by the Design-Builder's Work. Before any work begins the Design-Builder shall inform the Authority's Project Manager what utilities are present and how they may be affected by the work.

The Design-Builder, in coordination with the Authority's Project Manager (or designee) and the Authority Utility Engineer, shall meet with all the affected Utility owners or operators for the purpose of discussing the effect on the utility facilities and to agree on a plan to maintain, protect, relocate, reinstall, or other action that may be necessary for the work to progress.

All utilities must be maintained, supported and protected during construction, unless otherwise directed by the utility owner.

Any utility conduit, conductor, splice box, pull box or other item that is part of a utility system or street light system that is embedded in a concrete deck, sidewalk or other concrete element that is being removed and replaced as part of this Project shall be replaced and its location coordinated with the utility owner unless the utility owner indicates that replacement is not required. The design and construction of the replaced utility shall be in conformance with the current standards of the Utility owner.

The Design-Builder shall be responsible for repair to any damage and consequential damages to those utilities caused by his operations at the Design-Builder's expense. If the nature of the damage is such as to endanger the satisfactory operations of the utilities and the necessary repairs are not immediately made by the Design-Builder, the work may be done by the respective owning companies and the cost thereof charged against the Design-Builder.

The Design-Builder shall provide notice to the Construction Quality Assurance Engineer (CQAE) at least two weeks before construction begins on any portion of the Project. The CQAE will notify the Authority Utility Engineer of the pending construction and of any planned interruptions to service. It should be noted that utility companies set their own notification time frames and requirements. The Design-Builder shall coordinate with respective Utility Owners.

8.3.1 Utility Relocation Agreements

It is anticipated that the required Final Utility Work Agreements will be executed between the Authority, the Design-Builder and the owners of impacted utilities once the Design-Builder has determined the final locations of the impacted utilities. See Part 4 for details on utility inventory, coordination and relocations.

The Design Builder shall be responsible for the design and construction of these facilities as outlined in Part 4 - Utilities.

8.3.2 Other Utility Conflicts

Please see Part 4 – Utility Requirements for additional utilities in the project vicinity that may require relocation and modification.

SECTION 9 GEOTECHNICS

9.1 SCOPE

The Design-Builder shall be responsible for all Geotechnical Work necessary for the design and construction of all permanent and temporary structures, including assessing available information, planning and implementing subsurface investigations, geotechnical analysis and reporting, geotechnical instrumentation and monitoring, and protection of existing infrastructure, structures and utilities in accordance with the requirements of the Contract Documents.

These requirements are considered as a minimum and do not include all possible conditions that may be encountered in the Design-Builder's final design.

The Authority has performed limited subsurface investigations in the vicinity of the Project Site. Information from these previous subsurface investigations has been provided as Reference Documents. Presentation of this information in no way implies that subsurface conditions are the same at other locations at each site.

The Design-Builder shall be familiar with available geotechnical, geologic, seismic, hydrogeology, soils literature, and existing site conditions (both native and man-made), and shall interpret the existing geotechnical data pertaining to the Project Site. The Design-Builder shall form its own interpretation of the existing geotechnical data, and any additional geotechnical data the Design-Builder may obtain from its own investigations, and shall produce designs compatible with geotechnical site conditions and provide for the durability of the finished product.

9.2 STANDARDS

The Design-Builder shall perform geotechnical activities in accordance with the Contract Requirements and the applicable Standards, Design Codes and Manuals cited in Section 1.6 or otherwise applicable to the Project.

9.3 DESIGN REQUIREMENTS

9.3.1 Geotechnical Work Plan

The Design-Builder shall prepare a Geotechnical Work Plan, which shall include:

A) Design-Builder's knowledge and understanding of the geotechnical, geologic, hydrogeologic and seismic settings of the Project Site and how the nature and behavior of the soil, rock, groundwater and subsurface conditions will affect the investigation, design and methods of construction;

B) Identification of key constraints, site and subsurface conditions, and a description of how the geotechnical activities address these constraints and conditions; and

C) Types of subsurface investigations to be carried out for the Project, including locations and depths of borings and other field testing with a narrative of the in-situ tests (if applicable) and laboratory tests to be carried out.

9.3.2 Geotechnical Investigations

The Design-Builder shall plan and conduct geotechnical investigations in accordance with the Authority's and AASHTO Standards for subsurface exploration programs, and as deemed necessary by the Design-Builder's Lead Geotechnical Engineer to establish the geotechnical conditions and to perform all geotechnical and foundation design and analysis.

The Design-Builder shall determine the State Plane coordinate location and ground surface elevation for each boring and field exploration position, and shall show the actual coordinates and the datum version, the station and offset, and the elevation for each individual boring log or exploration record in accordance with Authority standards. Boring shall be located using NAD83 Geodetic Reference System. Elevations shall be referenced to the Project datum and horizontal control system.

9.3.3 Borings

Information from existing borings provided by the Authority as Reference Documents may be combined by the Design-Builder with the Design-Builder's subsurface investigation to comply with the requirements of the applicable standards. It is the sole responsibility of the Design-Builder to determine if the existing borings are suitable for use in the Project. It is the sole responsibility of the Design-Builder to determine the extent to which further borings by the Design-Builder are necessary for the Project.

9.3.4 Subsurface Investigation Records

For each subsurface exploration, the Design-Builder shall be responsible for keeping a continuous and accurate log.

9.3.5 Software Requirements

The Design-Builder shall use Bentley gINT® or similar commercial software to develop and maintain an electronic database of subsurface information including in-situ test and laboratory test results, and to produce all final subsurface exploration logs or records.

9.3.6 Geotechnical Data Report

The Design-Builder shall be responsible for preparing a geotechnical data report, signed and sealed by the Lead Geotechnical Engineer. The Geotechnical Data Report shall serve as a factual depiction of the subsurface conditions and at a minimum it shall include:

A) A detailed description of the investigation methods;

B) Complete records with summary tables of investigation;

C) Complete records with summary tables of laboratory test results; and

D) An exploratory hole location plan, showing locations of any existing (pre-award) exploratory holes for which data was used by the Design-Builder plus locations of post-award exploratory hole locations undertaken by the Design-Builder.

The Design-Builder shall provide the Authority with a copy of the Geotechnical Data Report, including a final log for each subsurface investigation exploratory hole progressed.

9.3.7 Retaining Walls

The Design-Builder shall design and construct retaining walls, if required, in accordance with Section 10 of this Part 3 - Project Requirements. The Design-Builder shall provide retaining wall designs to address internal, external, and global (overall) stability and settlements (total and differential) of the walls in accordance with the AASHTO LRFD Bridge Design Specifications.

All retaining walls shall be evaluated and designed for seismic stability internally and externally (i.e. sliding and overturning). With regard to overall seismic slope stability (global stability) involving a retaining wall, with or without liquefaction, the Lead Geotechnical Engineer shall evaluate the impacts of failure due to seismic loading, if failure is predicted to occur.

Gabion and crib walls (stretcher and header type) shall not be used.

9.3.8 Geotechnical Instrumentation & Construction Monitoring

The Design-Builder shall develop, implement, and maintain a geotechnical instrumentation and construction monitoring plan to monitor vibrations, accelerations, vertical settlement, and lateral movement of temporary support structures and adjacent ground, and existing structures and infrastructure during construction, including ancillary structures and infrastructure within the zone of influence of construction.

Wherever vibration-producing activities are located within 100 feet of a structure, building, or utility, the Design-Builder shall perform vibration monitoring in accordance with Special Specification 634.99020017 to address the potential impacts to nearby receptors due to construction or demolition activities associated with this Project. The term “receptor” includes buildings, utilities, newly constructed elements, and existing structures, for which construction impacts or Work above recommended limits may be detrimental.

The Design-Builder shall provide weekly construction instrumentation monitoring reports to the Authority. Monitoring reports shall be interpretive in nature, and shall enumerate any corrections applied to the data including, but not limited to any notification measures taken regarding data. The weekly reports shall include clear and explicit statements of readings exceeding any pre-determined threshold values. The Design-Builder shall maintain the instrumentation and monitor the measurements during and after construction up to Final Acceptance.

9.3.9 Slope Stability

The Design-Builder shall be responsible for assessing the stability and impacts of any new soil fill and cut slopes (permanent and temporary) required for the Project, and ensuring the long term stability of these slopes.

9.3.10 Temporary Works

The Design-Builder shall be responsible for the design and construction of all temporary works required for the Project.

9.3.11 Operational Classification

The mainline bridges (bridges carrying Thruway traffic) over local roads or water are classified as critical. Interchange 35, BIN 5510090 is classified as essential. BINS 5512790 and 5512980 are classified as other.

9.4 CONSTRUCTION REQUIREMENTS

9.4.1 Dewatering and Groundwater Control

The Design-Builder shall be responsible for evaluating the potential need for dewatering and groundwater control, and for implementing such measures as appropriate, and shall evaluate the effects on existing facilities resulting from any dewatering and draw down.

9.4.2 Deep Foundations

The Design-Builder shall design and provide integrity and/or capacity testing of all deep foundations, in accordance with NYSDOT standards. If applicable, integrity testing requirements on drilled shafts and test shafts shall comprise of, as a minimum, crosshole sonic logging on all drilled shafts.

As part of the As-Built Plans, the Design-Builder shall provide installation records for all deep foundations installed, in accordance with NYSDOT standards.

The Design-Builder shall report the results of all foundation installation inspections and rock socket observations.

9.4.3 Soil and Rock Excavations and Embankments For Roadway Foundation

Excavations and embankments for roadway foundations shall be constructed so that post construction settlement is expected to remain within two inches of the profile grade line at any point along the entire alignment. Also, prior to the Project's final acceptance, differential settlement along travel lane and shoulder surfaces shall not exceed two inches over a 100-foot length along the alignment (longitudinal direction), or over one half inch along a ten foot length in the transverse direction or within ten feet of any approach slab or edge of structure.

9.4.4 Condition Surveys

9.4.4.1 Pre-Construction Condition Survey

The Design-Builder shall conduct a pre-construction inspection and survey of the existing condition of all structures and properties within 100 feet of vibration or settlement causing construction activities for the purposes of generating photographic and video documentation of existing damage, leaks and cracks, in accordance with the requirements of Special Specification 634.99010017. The pre-construction condition survey shall form the basis against which all new cracks, existing progressive cracks, or damage will be measured.

In its preparation for the pre-construction survey, the Design-Builder shall ensure that the pre-construction condition survey encompasses at a minimum all properties within areas that are identified by the Design-Builder to be potentially prone to: (i) ground vibration levels, expressed

as resultant peak particle velocity, in excess of 2.0 inches per second; and (ii) predicted ground settlements of greater than ¼ inch.

The Design-Builder shall record the results of any pre-construction condition survey, which shall be signed and stamped by a Professional Engineer registered in the State of New York.

9.4.4.2 Post-Construction Condition Survey

The Design-Builder shall conduct a post-construction condition survey of the properties covered by the pre-construction conditions survey. The post-construction condition survey shall be performed by the Design-Builder within 20 calendar days of Project Completion, and it shall compare the post-construction conditions with the conditions recorded in the pre-construction condition survey. A summary of the damages observed, if any, shall be provided at the end of the report. The location and scope of the post-construction condition survey shall match those of the pre-construction condition survey. The complete documentation of the post-construction survey, describing the comparison with the preconstruction conditions and signed by a Professional Engineer registered in the State of New York, shall be submitted to the Authority, both in hardcopy and electronic format.

9.5 DELIVERABLES

Deliverables shall be as stated elsewhere in the RFP documents.

SECTION 10 STRUCTURES

10.1 SCOPE

The Design-Builder shall be responsible for all work necessary to complete the design and construction of all permanent and temporary structures required to complete the Project, including, but not limited to, the permanent bridge, bikeway/walkway, retaining walls, barriers, sign structures and miscellaneous structures. The design and construction of all structural systems and components shall provide functionality, durability, ease of maintenance and inspection, and safety.

The Design-Builder shall be responsible for the review and approval of all shop drawings needed for the scope of work. The review and acceptance process shall be in conformance with the Design-Builder's accepted Quality Control Plan.

10.2 STANDARDS

The Design-Builder shall perform structural design and construction activities in accordance with the Contract Requirements and the applicable Standards, Design Codes, and Manuals cited in Section 1.6, unless otherwise stipulated in this Project Requirement or otherwise applicable to the Project.

10.3 DESIGN REQUIREMENTS

The Design-Builder shall design new bridge structure(s), including but not limited to the following: primary and secondary structural elements, reinforced concrete deck, sidewalk(s), curb(s), pier structure(s), pier foundation(s), abutment structures, abutment foundations, retaining structures, bridge railings, bearings and drainage systems.

The new structure(s) shall be designed and constructed to meet the following requirements:

All structures spanning over local roads or state highways shall provide a minimum vertical clearance of 14'- 6". Abutment placements shall meet the minimum horizontal offset standard.

All structures spanning over the Thruway mainline shall provide a minimum vertical clearance of 16' – 6". Abutment placements shall also meet the minimum horizontal offset standard.

BIN 5510130: I90 over Bear Trap Creek, requires a minimum freeboard of 2ft for the 50 year flood or, Q_{100} with no pressure flow whichever results in a higher elevation. The face of the abutments shall be parallel to Bear Trap Creek flow. In accordance with USACE Section 404 Nationwide Permit Conditions, the new structure will require a minimum span length that is 1.25 times the bank full channel width.

BIN 1020079: This structure is located next to a flood protection system. The flood protection system is located on the North side of the bridge and is just north of the North fascia edge of the bridge. The Design-Builder shall not disrupt any portion of this flood control system in constructing the new bridge or in demolishing of the existing old bridge. The concrete supports which resemble small wingwalls shall remain in place, undisturbed. In addition, a metal continuous plate (part of flood control system) runs parallel to the North fascia line of the bridge and shall not be disturbed, damaged or impeded from performing as intended. When the new bridge is constructed and the Northeast and Northwest wingwalls are constructed, those wingwalls shall connect via a modification or supplemental appendage to the gated floodway

mini wingwalls. The supplemental appendage shall be a minimum of two feet higher in elevation than the mini wingwalls on the Northside of the bridge.

On BIN 1020079: Erection Drills are conducted every two years. They are typically conducted during the month of August to prevent disruption to school bus traffic. The "erection drill" takes place in one day. The exact date cannot be provided. These events will take place in August of 2018 and August of 2020. It will most likely shut down contractor's operations underneath the bridge due to road closures. The Design-Builder should be aware of this operation. No additional time or compensation shall be granted. Notification of the planned event in 2018 and/or 2020 will be provided to the Design-Builder as early as the Authority is notified, but no less than two weeks prior to the event.

The Design-Builder may propose various types of superstructure systems and/or foundations and substructures to replace the existing bridges. Unless founded on rock, all structures crossing water shall be supported on piles or drilled shafts.

- For mainline bridges spanning over local or state roads, refer to Section B – Highway Design for Roadway Sections, to ensure proper minimum span/bridge lengths.

10.3.1 Components

A) Barriers, Railings and Pedestrian Fencing: Temporary traffic barriers shall meet, as a minimum, the testing requirements of TL 2 and permanent traffic barriers shall meet, as a minimum, the testing requirements of TL 4.

Barriers, railings and/or fencing that will be designed and constructed to restrict/inhibit pedestrians and/or deter/prevent material from reaching traffic lanes below and shall be designed for bicycle traffic, detailed to prevent people from climbing, and provide for maximum safety and security.

Refer to Section 10.3.2 for aesthetic requirements related to bridge parapet walls, bridge railing, and fencing, if any and other components of the bridges structure.

B) Decks: Precast panel and/or cast in place decks are preferred. Cast in place decks shall use internally curing concrete as per NYSDOT Special Specifications 557.51090018 and 557.54090018. Two-course decks with asphalt overlays as defined in the NYSDOT Bridge Manual are not permitted. Unfilled steel grating decks and orthotropic steel decks are not permitted. Bridge decks shall be made fully composite with the underlying primary member system. All decks shall be protectively sealed. All deck reinforcement shall be galvanized.

C) Deck Joints shall not be allowed.

D) Superstructure: The superstructure may be constructed of concrete or structural steel. Structural steel, if used, shall be either weathering steel or conventionally metalized or galvanized steel. If weathering steel is used on curb less bridges and/or bridges with deck joints, the fascia side of all exterior girders, including the underside of the top flange and the top and underside of the bottom flange, shall be metalized or galvanized. In addition, all girder ends within 1.5 times the depth of the girder or five (5) feet, whichever is greater from a deck joint, (if applicable) shall be metalized or galvanized. Should weathering steel be used, the following conditions shall also apply:

- Uncoated weathering steel bridges shall be detailed to include an additional 1/16 inch of thickness per exposed face beyond what is required by design for the small amount of corrosion expected over the life of the bridge. The additional thickness shall not be included in calculations for design strength, but must be included in the dead load and camber calculations. Guidance in the Bridge Manual Section 8 regarding recommended plate thickness increments shall still be followed.

- Each end of uncoated weathering steel beams embedded in an integral or semi-integral abutment shall be protectively coated for the length of the beam embedment into the abutment plus an additional 12 inches.

If steel girders are utilized as primary members in conjunction with a composite reinforced concrete bridge deck, then, at a minimum, the beams and deck shall be made continuous for dead and live load in lieu of installing a bridge deck joint over the pier.

If prestressed concrete girders are utilized as primary members in conjunction with a composite reinforced concrete bridge deck, then, at a minimum, the beams and deck shall be made continuous for live load in lieu of installing a bridge deck joint over the pier.

Timber superstructure systems or decks are not permitted.

Prestressed concrete box beams (either adjacent or spread) and prestressed Concrete voided slabs are not permitted.

Fracture-critical members are not permitted.

Refer to Section 10.3.2 for color requirements related to painted steel superstructure elements, if any.

E) Prefabricated superstructure components and precast bridge deck panels: If prefabricated superstructure components (NEXT Beams, Deck Bulb Tee, etc.), and/or precast bridge deck panels are used, where no standard details are available in the BD sheets, Field Cast joints between prefabricated components and panels shall be made with Ultra-High-Performance Concrete (UHPC) or Internal Curing High Performance Concrete. Stainless steel reinforcement shall be used in the prefabricated superstructure component (s) and the associated field cast joints. In addition, the field cast joints shall be sealed with High Molecular Weight Methacrylate (HMWM) as per Special specification 557.25000016 and/or 557.26000016. The proposed special specifications for UHPC joints shall be similar to Special specification 557.21020016 and in compliance with guidance given in FHWA publications No. FHWA-HRT-14-084, Design and Construction of Field Cast UHPC connections. This publication can be found at the following link:

http://www.Fhwa.dot.gov/publications/research/infrastructure/Structures/14084/14084.pdf

The use of Internal Curing High Performance Concrete is as per NYSDOT special specifications 557.2101XX09.

F) Bearings: Design and location of bearings shall provide for easy maintenance and accessibility and future bearing replacement. Bearing replacement shall be easily accomplished via jacking points off the top of the substructure bridge seat(s) with no additional strengthening of members and/or connections required. Jacking points with sufficient capacity (full dead load and live load) to allow the superstructure to be lifted for

future bearing replacement under live load shall be provided. The plans shall include the location of the jacking points and provide the jacking loads.

G) Substructures:

Abutments: The tops of all bridge seats, all bearing pedestal surfaces, and the backwall tops be coated with penetrating type protective sealers. All substructure reinforcement shall be galvanized.

Pier Caps (if necessary): The tops of all piers and bearing pedestal surfaces shall be coated with penetrating type protective sealers. All Pier reinforcement shall be galvanized.

H) Earth Retaining Structures: The Design-Builder shall determine the location(s) and types of earth retaining structures. Wall type selection and design by the Design-Builder shall meet all applicable Project Requirements. Wingwalls shall be considered as part of the abutment for a distance, measured along the wingwall from the centerline of bearings, equal to the maximum height of the abutment wall (as measured from top of grade at the base of the abutment to the bottom of lowest girder). Gabion and crib walls are not permitted.

I) Foundations: The Design-Builder shall calculate settlements for the different geotechnical conditions along the bridge. Settlements likely to occur during construction shall be calculated separately from long term settlements.

J) Drainage: Drainage requirements are outlined in Section 17 of these Project Requirements.

K) BIN Plate Sign: The Design-Builder shall be furnished by the Authority, the new BIN Plate Sign and the Design-Builder shall install the new BIN plate.

The BIN Plate Sign shall be supplied at the Design Workshop with one for each BIN, eight (8) total.

The BIN plate shall be attached to the beginning abutment, right side of the bridge using expansion anchors. The plate shall be placed high on the abutment, near the fascia of the bridge so that it cannot be painted over via a spray paint can or easily removed or damaged.

L) All reinforcing steel mentioned above that is galvanized shall follow Standard Specification Item 556.0203.

10.3.2 Aesthetics

Aesthetics treatments may include form lines, or other creative methods (i.e. recessed panels) to introduce distinctive Aesthetic enhancements on wingwalls, abutment stems, piers, and concrete parapets/barriers. Each bridge should be distinct in the enhancement application. No two bridge structures shall be the same unless the structures are within ten (10) miles of each other. (If the first bridge is within 10 miles of second bridge and the third bridge is within 10 miles of the second bridge but not within 10 miles of the first, only two of the three can have the same Aesthetic enhancement. Either the first and second or the second and third. The Aesthetic approach will be part of the technical scoring. BINS 5516071 and 5516072 shall have

the same Aesthetic enhancement. On BIN 5510130 only the concrete barrier requires Aesthetic treatments.

Any superstructure steel that utilizes a protective coating of paint shall be painted with a coating coordinated with Authority, but should be as similar to the superstructure steel for bearings, etc. An example would be for a Weathering steel superstructure, the paint coating should meet Weathered Brown Guide Rail Paint as specified in Standard Specification 708.

10.4 DEMOLITION REQUIREMENTS

10.4.1 Scope

The Design-Builder shall demolish and remove the existing bridge superstructures, piers, abutments, foundations, retaining walls, and pavement within the Project Limits in a safe and environmentally acceptable manner.

The demolition of the existing Bridge shall include all existing superstructure elements and all substructure elements as per Standards and BD Sheets except as indicated below and/or in accordance with environmental permitting. Where new foundations are placed at the locations of existing foundations the existing foundations shall be removed to the extent needed to construct the new foundations.

- For BIN 5512790 - Substructure removal of Pier 3 (the Northern pier) shall be removed to the top of footings or 2 feet below original ground surface whichever is less.

- For BIN 5512980 – Substructure removal of Pier 3 (the Northern pier) shall be removed to the top of footings or 2 feet below original ground surface, whichever is less.

For BIN 5510090 – Substructure removal of Pier 3 (the Northern pier) shall be removed to the top of the footings or 2 feet below original ground surface whichever is less.The Design-Builder shall test for the presence of Hazardous Materials in all structures to be disturbed to ensure the handling, removal and disposal is done in accordance with all applicable laws and standards.

The abatement of all Hazardous Materials shall be completed to the greatest extent possible prior to any demolition taking place unless a legal variation from related laws, rules and regulations can be obtained. If the Hazardous Material has been identified through the Hazardous or Asbestos Screening document and/or the record plans, the Design-Builder is responsible for all costs. Should Hazardous Material or Asbestos be found and information related to its presence not previously available to the Design-Builder, all costs associated with abatement, containment, removal, and disposal shall be covered under the Fixed Force Account item.

The Design-Builder shall perform all Work with care so that any materials that are to remain in place, or that are to remain the property of the Authority shall not be damaged. If the Design-Builder damages any materials that are to remain in place or which are to become or to remain the property of the Authority, the damaged materials shall be repaired or replaced in a manner satisfactory to the Authority at no cost to the Authority.

The Design-Builder shall ensure that no aspects of the Works have a detrimental effect on public safety or the environment.

The Design-Builder shall assume responsibility for safety and maintenance of all existing structures within the Project Limits, identified for removal in accordance with DB §105-12.

Utility connections shall be discontinued and capped in accordance with the requirements of the utilities companies or the Authority prior to demolition works.

10.4.2 Standards

The Design-Builder shall perform the demolition activities in accordance with the Contract Requirements and the applicable Standards, Codes and Manuals listed in Section 1.6 unless otherwise stipulated in this Project Requirement, or otherwise applicable to the Project.

10.5 CONSTRUCTION REQUIREMENTS

The Design-Builder shall develop erection procedures for the bridges that include complete detailed erection sequence drawings; erection stresses in permanent and temporary members; bent and false work reactions determined for each construction stage.

10.5.1 Construction Vehicles on Bridge

The Design-Builder is prohibited from running equipment that does not operate on rubber tires (milling machines, rollers, etc.) across new bridge decks unless proper precautions (mats, etc.) are provided to prevent damage to the deck. The methods used to move equipment across bridge decks shall be subject to approval by the Construction Inspection Professional Engineering Firm with comments/acceptance from the CQAE.

10.6 LOAD RATING REQUIREMENTS

Prior to any bridge(s) in this Project being opened to traffic, including temporary bridges, the Design-Builder shall provide to the Authority, the necessary load rating requirements, including Virtis load rating files, as per NYSDOT standards and manuals for review and acceptance by the Design Quality Assurance Engineer. The Design-Builder shall take the necessary steps to ensure that proper allocated time is afforded the Design-Quality Assurance Engineer, to fully execute a proper review and the Design-Builder shall make provisions in their CPM schedule addressing such submittal, review, and acceptance. The load rating for all permanent bridges shall be a resulting factor of 1.1. Inventory with an operating resulting factor higher. A resulting factor of 1.0 is not acceptable.

Before the new bridge(s) can be opened to traffic, the load rating shall be presented to the Authority's Quality Assurance Engineer for acceptance. The Quality Manager shall supply a certification statement that the load rating followed the accepted Quality Control Plan and the results are in compliance with the requirements of the contract documents.

10.7 DELIVERABLES

Deliverables shall be as stated elsewhere in the RFP documents.

SECTION 11 LANDSCAPE ARCHITECTURE

11.1 SCOPE

The Design-Builder shall perform the landscape architectural activities as described in this Section.

11.2 STANDARDS

The Design-Builder shall perform site work in accordance with the Contract Requirements and the applicable Standards, Design Codes and Manuals cited in Section 1.6, unless otherwise stipulated in this Project Requirement or otherwise applicable to the Project.

11.3 GENERAL LANDSCAPE DEVELOPMENT

11.3.1 Existing Vegetation

Existing vegetation removal and disturbance should be minimized to the cut/fill limits and any removals, whether within the cut/fill limits or beyond those areas, shall be replaced in kind with native species appropriate for USDA NY Plant Hardiness Planting Zone 5a; for BINS 1020079, 5516071 and 5516072 and Zone (5b) for BINS 5009929, 5512980, 5512790, 5510090, and 5516071 as described in Section 11.3.2.

Prior to the removal of any trees or shrubs, an inventory of existing trees and shrubs shall be prepared by the Design-Builder and a copy provided to the CQAE. The inventory shall include major deciduous trees over 6 inches in diameter at breast height (DBH), coniferous trees over 6 feet in height, and deciduous or evergreen shrubs between 3 feet and 6 feet in height. The inventory shall include the size, location and species of each tree or shrub. Only living trees and shrubs shall be included in the existing tree/shrub inventory.

Vegetation outside the limits of disturbance shall be protected with temporary plastic barrier fence along the limit of disturbance line.

Disturbed areas shall receive topsoil and turf establishment. The type of topsoil and turf establishment, either roadside or lawn, will vary based on location.

11.3.2 Tree Replacement Factors

A) Every live, deciduous tree greater than six inches in diameter at breast height (“DBH”) which is removed must be replaced with a total quantity of deciduous trees a minimum of 2 inch caliper (size measured 6 inches above the base of the tree) equal to the total DBH size of the tree removed. For example, a 10 inch DBH tree removed could be replaced with (5) two inch caliper trees or (2) three inch and (1) four inch caliper trees; however the replacement quantity will go down if larger caliper trees are used for replacement.

B) Every live, coniferous tree removed must be replaced with a total quantity of coniferous trees equal to the height and width of the tree removed. For example, a 20ft high x 10ft wide coniferous tree could be replaced by two (2) 10ft high x 5ft wide coniferous trees.

C) Every live shrub, between 3 foot height and 6 foot height, removed must be replaced with a total quantity of shrubs equal to the quantity of shrubs removed.

D) Each replacement tree should be the same genus and species of the tree removed, unless the tree being removed was identified by the Design-Builder as an invasive plant species.

E) The minimum replacement sizes shall be as follows: 2-inch caliper for major deciduous trees, 1.5-inch caliper for minor deciduous trees, 6-foot height for coniferous trees, 3-foot height for deciduous shrubs, and 2-foot height for evergreen shrubs.

11.3.3 Replacement Locations

Replacement planting may be located in the available right-of-way near the original locations of the trees that were removed.

Replacement planting may also be done near the right-of-way line or on private property. Planting on private property may only be done if private property owners provide written permission to the Design-Builder and agree to take over the long term care and maintenance of the plant material, and the appropriate release is obtained by the Design-Builder and in consultation with the adjoining property owner in accordance with NYSDOT EI 11-010.

11.3.4 Proposed Planting

The Design-Builder shall not use invasive plant species for any of the proposed planting as required by the New York State 2012 Invasive Species Prevention Act, or a monoculture of plant species, to reduce the potential for disease or invasive insect species to eradicate the proposed plantings. Planting shall be located in a manner that does not interfere with the safe use of travel ways. Planting should be designed in a manner that provides a mix of plant material species to create seasonal interest for the traveling public.

Post planting care and replacement plantings shall be as per the requirements of Special Specification 611.190X0024, Post Planting Care with Replacement.

SECTION 12 SIGNAGE, PAVEMENT MARKING AND SIGNALS

12.1 SCOPE

The Design-Builder shall provide all temporary and permanent fixed signing, permanent pavement markings and signal work (if applicable) required for the Project.

The Design-Builder shall be responsible for identifying, designing, detailing, fabricating, delivering and installing on all signing (including reference markers) and pavement marking materials and shall install all components necessary for a complete and functional system which, in addition to meeting the design and construction criteria specified above, meets the following requirements:

A) Provides for the orderly and predictable movement of all traffic;

B) Provides such regulation, guidance, warnings and advisories as are needed to ensure safe and informed operation;

C) Is fully and seamlessly integrated into the existing signing elements beyond the Project limits; and

D) Is integrated into the existing intelligent transportation system (ITS) components, if applicable.

The Design-Builder shall be responsible for the review and approval of all shop drawings needed for the scope of work. The review and approval process shall be in conformance with the Design-Builder's Accepted Quality Control Plan.

12.2 STANDARDS

The Design-Builder shall perform the signage, pavement marking and signals activities in accordance with Contract Requirements and the applicable Standards, Design Codes and Manuals cited in Section 1.6, unless otherwise stipulated in this Project Requirement or otherwise applicable to the Project.

12.3 REQUIREMENTS

12.3.1 Design Requirements

The Design-Builder shall develop a signing and pavement marking plan and a traffic signal plan (if applicable) for the Project that shall:

A) Provide for all components as called for in this Section 12;

B) Encompass the replacement of all existing signs within the Project limits;

C) Provide signing, traffic signals and pavement markings for bicycle and pedestrian facilities within the Project Limits, where applicable;

D) Locate signs in accordance with the MUTCD and the NYS supplement; and

E) Provide signs with high reflectivity with Type XI sheeting such as to not warrant sign lighting.

12.3.2 Construction Requirements

12.3.2.1 Signs

The Design-Builder shall not reuse any existing Authority sign materials as part of the permanent signing installation and shall be responsible for the disposal of all signing materials and structures that are removed from the Project. Standard signs owned by municipalities other than Authority, and non-standard signs owned by private entities but placed within Authority right-of-way, with the acceptance of the Authority, shall be removed, stored and reinstalled as required.

The Design-Builder shall be responsible for the provision of all signs, posts, frames and other structural components required for the installation and support of the sign panels.

12.3.2.2 Pavement Markings

All linear roadway and cross hatching pavement markings shall be installed in accordance with the Authority's Specifications, 635.04030225, 685.1709—25, and 685.1710—25 for mainline structures, and highways. Pavement surfaces standard specifications apply elsewhere.

12.3.2.3 Traffic Signals

Not Applicable – There are no signals on this project.

12.3.2.4 Loop Detectors

Not Applicable – There are no loop detectors requiring replacement in this contract.

12.3.3 Conduit/Cabling Requirements

Not Applicable. See 12.3.2.3 and 12.3.2.4

12.3.4 Signal Heads/ Signal Poles

Not Applicable

12.3.5 Cabinet/Disconnect Switch

Not Applicable.

12.4 DELIVERABLES

Section not used.

SECTION 13 LIGHTING

13.1 SCOPE

The Design-Builder shall conduct all Work necessary to provide all required lighting and lighting components required for the Project. This includes design, fabrication and construction of all transportation related permanent and temporary roadway lighting of the bridge and roadway within the Project Limits.

The Design-Builder shall be responsible for the review and approval of all shop drawings needed for the scope of work. The review and approval process shall be in conformance with the Design-Builder's Accepted Quality Control Plan.

13.2 STANDARDS

The Design-Builder shall perform the lighting activities in accordance with the Contract Requirements and the applicable Standards, Design Codes and Manuals listed in Section 1.6, or otherwise applicable to the Project, and the following additional Standards:

13.2.1 Standards

A)	ANSI/IES	ANSI Approved Recommended Practice for Roadway Lighting, RP-8-00
B)	ANSI/IES	ANSI Approved Recommended Practice for Roadway Sign Lighting, RP-19-01
C)	FAA	Advisory Circular 70/7460-1K, Obstruction Marking and Lighting
D)	IES	Recommended Lighting for Walkways and Class 1 Bikeways, DG-5-94
E)	NFPA	NFPA 70 – National Electrical Code (NEC)
F)	NYSDOT	Policy on Highway Lighting
G)	USCG	33 CFR 118 – Bridge Lighting and Other Signals

13.2.2 References

A)	IES	Guideline for the Application of General Illumination ("White") Light-Emitting Diode (LED) Technologies G-2-10
B)	NFPA	NFPA 70E Standard for Electrical Safety in the Workplace
C)	NFPA	NFPA 780 Standard for the Installation of Lightning Protection Systems

13.3 REQUIREMENTS

13.3.1 General Requirements

The Design-Builder shall be responsible for designing, furnishing and installing all components required for the implementation of the lighting system for the Project including new luminaires, controls, poles, mounting, wiring, conduits, and support hardware, as necessary for delivering a complete and functional lighting system.

The Lighting System within the Project limits shall be fully maintained by the Design-Builder for the duration of the Project.

13.3.1.1 Power Supply Requirements

For reference, the lighting installation shall comply with the following:

A) Meet all requirements of NFPA 70 – National Electrical Code (NEC);

B) All outdoor electrical enclosures shall be type 316 stainless steel, rated NEMA 4X or a higher degree of protection; and

C) Meet all requirements of applicable IEEE and ANSI power engineering standards.

13.3.1.2 Removal of Existing Equipment

All disconnected luminaires, light poles, and associated equipment shall be removed and disposed of by the Design-Builder. All wiring, switches, panels, cabinets, enclosures, and other electrical equipment shall be removed and disposed of by the Design-Builder.

13.3.2 Permanent Lighting System

13.3.2.1 General

The Design-Builder shall be responsible for ensuring that the permanent lighting system meets the following requirements:

A) Provides illumination such that the road surface illumination meets or exceeds the uniformity and the illuminance and/or luminance criteria during darkness;

B) Utilizes energy efficient and long-life, low maintenance lighting technologies that are found on the Authority's approved lists;

C) Can be fully and seamlessly integrated into the existing permanent lighting elements adjacent to the Project limits;

D) Utilizes a photo-control switch system that automatically activates lighting before dusk and deactivates the system past dawn;

E) Contains surge suppression devices for protection against damage by lightning strikes and complying with NFPA-780 and UL 96;

F) Provides fixtures that are water tight and intended for a marine/industrial environment; and

G) Utilizes lighting components that are readily available and not proprietary equipment.

13.3.2.2 Construction Requirements

The Design-Builder shall use materials listed on the NYSDOT approved list of materials and consistent with the details shown on the Authority's Standard Sheets.

The Design-Builder shall provide permanent lighting materials that satisfy the Project Requirements and applicable codes. In addition, the Design-Builder shall:

A) Ensure that all exposed raceways/conduits are made of PVC coated rigid galvanized steel (RGS). Short runs (no longer than 15 feet) of liquid-tight flexible metal conduit may only be used to make a final connection between the main power feeder and a light pole or fixture;

B) Ensure that all outdoor electrical enclosures and attached parts (e.g. breather drain) shall be type 316 stainless steel, rated NEMA 4X or a higher degree of protection;

C) Ensure that any new electrical enclosures shall have a key lock;

D) Ensure all lighting shall include breakaway devices, unless protected by concrete barrier. Light poles shall feature a breakaway base, except where located behind bridge rails.

13.3.3 Temporary Lighting System

The Design-Builder shall ensure that the existing lighting levels within the Project limits are maintained at all times. A temporary lighting system shall be installed as necessary to meet this requirement. The temporary system shall be energized either separately or though connection to the existing lighting system.

13.4 DELIVERABLES

Deliverables shall be as stated elsewhere in the RFP documents.

SECTION 14 INTELLIGENT TRANSPORTATION SYSTEMS (ITS)

14.1 SCOPE

The Design-Builder shall perform all work necessary to design, furnish, build, and install temporary and/or permanent Elements of the Transit system.

14.2 STANDARDS

The Design-Builder shall perform ITS activities in accordance with the Contract Requirements, the applicable Standards, Design Codes and Manuals cited in Section 1.6, unless otherwise applicable to the Project, and the following additional Standards:

14.2.1 Standards

- **NEC: National Electric Code**

14.3 REQUIREMENTS

The ITS System work in the Project shall consist of the following:

A) Demolition of Existing TRANSMIT Elements

The removal of TRANSMIT elements, where required, shall be removed by qualified technicians, including cabinets and all electronics, and shall be disposed of properly. The Design-Builder shall remove TRANSMIT elements located at Milepost 278.93 (BIN 5510090).

The Authority will disconnect the existing coaxial cable in the TRANSMIT cabinet. The Authority requires a two (2) day advance notification for disconnecting the coaxial cable.

The coaxial cable between the pullbox and the cabinet shall be removed and disposed of by the Design-builder. The Design-builder shall remove and dispose of all TRANSMIT antenna, conduit, and cable on the bridge and buried in the ground up to the pullbox.

Existing equipment to remain, damaged as a result of improper removal or handling of any of the components shall be replaced with new in kind equipment at the Design-Builder's expense.

B) Installation of TRANSMIT Elements

Install four (4) TRANSMIT antennas under the new bridge. The antennas are to be centered over the travel lanes. There shall be two antennas over each direction of traffic, one in each lane. The antenna shall meet the requirements of Item 683.3011-25 TRANSMIT Antenna.

The Design-builder shall run coaxial cable from each antenna to the TRANSMIT cabinet, with no splices in between.

The Design-builder shall bring the four individual conduits from the antenna into an existing junction box in the southwest quadrant from the bridge. The four cables shall be run in one

3-inch conduit from the junction box in the ground to the pull box. The cables shall be run through the pull box into the existing conduit to the TRANSMIT cabinet.

The Authority will reconnect the coaxial cable at the TRANSMIT cabinet. The Authority requires a two (2) day advance notification for reconnecting the coaxial cable.

The Authority contact for ITS elements in Syracuse Division is Jim Ryan, ITS Maintenance Supervisor at (315) 438-2368.

14.4 SYSTEM TEST PROCEDURES

The Authority will be responsible for testing the installed equipment to verify that it has been installed correctly, is performing as specified, and supports overall system operations. After the ITS elements are installed, the Design-Builder shall contact Jim Ryan at (315) 438-2368 to coordinate testing of system. Design-Builder shall provide a two (2) day advance notification for testing of the system. The durations of the test is one (1) day.

14.4.1 System Acceptance Testing

The Authority will require a two (2) day advance notice for testing the ITS System for acceptance. Contact Jim Ryan at (315) 438-2368 for notification of testing. The authority will perform the test.

If any equipment should fail, those subsystems affected by the failed equipment shall be subject to additional testing. The Authority will determine which equipment has been affected by the failure and subject to additional testing.

14.5 DOCUMENTATION REQUIREMENTS

The Design-Builder shall incorporate all ITS elements into the As-Built drawings for the contract.

SECTION 15 WORK ZONE TRAFFIC CONTROL AND ACCESS

15.1 SCOPE

The Design-Builder shall be responsible for the planning and provision of Work Zone Traffic Control (WZTC), required to perform the Project Work until Project Completion. This Project Requirement applies to any roads, ramps, cross roads, local streets, maintenance roads, driveways, and active paths within and/or affected by the Project.

The Design-Builder shall provide WZTC for the safe and efficient movement of people, goods, and services through the Project area(s) while maintaining access and minimizing negative impacts to residents, commuters, businesses, and Authority maintenance operations.

Note that, as used in this section, “Work Zone Traffic Control plan” or “WZTC plan” is the equivalent of “Maintenance and Protection of Traffic plan” or “MPT plan” as described in Chapter 16 of the Highway Design Manual (HDM).

15.2 STANDARDS

The Design-Builder shall perform the work zone traffic control activities in accordance with the Contract Requirements and the applicable Standards, Design Codes and Manuals listed in Section 1.6, unless otherwise stipulated in this Project Requirements, or otherwise applicable to the Project.

15.3 REQUIREMENTS

15.3.1 General Requirements

Offsite detours that meet Authority standards may be proposed unless otherwise noted below. Except as noted below, offsite detours shall utilize the shortest route on State-owned (NYSDOT) highways that have no bridges with load postings, R-posted restrictions, or vertical clearance restrictions, or that are or will be under construction during the detour period. The detours shall be fully signed. The total length of detour, as measured from one approach end to the bridge along the detour route to the other approach end of the bridge, shall not exceed 10 miles.

- Offsite detours are permitted for BIN 5512980 and 5512790 only. The offsite detour to be implemented for each bridge closure is found in Part 7 Engineering Data.

- All mainline bridges, BIN 1020079, 5516071, 5516072, 5009929, and 5510130 shall maintain two lanes of traffic in each direction at all times, except as noted in Section 15.3.5.

- For BINS 5512980 and 5512790 if closures are not employed, one lane of traffic in each direction shall be maintained at all times, except as noted in Section 15.3.5.

- For BIN 1020079 access to the off ramps shall be maintained at all times with deceleration ramps employed.

- For BIN 5510090 one lane of traffic in each direction shall be maintained at all times, except as noted in Section 15.3.5.

15.3.2 Work Zone Traffic Control Plan

The Design-Builder shall prepare and submit a WZTC Plan, for each bridge location, for managing traffic operations and controlling access until Project Completion. A WZTC Plan must be submitted in advance of any work that restricts the roadway cross section and includes durations and traffic pattern changes that will exceed 10 hours in any 24-hour period.

The WZTC Plan shall be submitted to the Authority's Design Quality Assurance Engineer a minimum of two weeks prior to initiation of any Work requiring a lane closure or the implementation of any change in traffic patterns.

The WZTC Plan shall include:

A) Contingency plans for reasonable unforeseen interruptions;

B) Duration of each WZTC stage, including duration of lane closure(s), if any;

C) Provisions for maintaining pedestrian traffic through the Project area at all times at all locations where pedestrian access through the Project area currently exists.

The Design-Builder shall notify local officials, and affected police jurisdictions, to facilitate safe and effective enforcement. The WZTC Plans shall recognize the need for approval of the use of local public roads, if applicable.

The Design-Builder shall be responsible for updating the WZTC Plans as necessary throughout the Contract, so that at all times the current traffic control on site is representative of the design drawings that have been accepted by the Authority.

15.3.3 General Restrictions

The Design-Builder shall be aware that no work shall be performed and no temporary lane closures and/or shoulder closures shall be permitted on the following State recognized holidays:

A) New Year's Day;

B) Memorial Day;

C) Independence Day;

D) Labor Day;

E) Thanksgiving Day;

F) Christmas Day.

Construction activities using temporary lane closures shall be suspended to minimize travel delays associated with road work for major holidays as follows:

- Friday, Saturday, Sunday and Monday Holidays – Beginning 6:00 a.m. the business day before the holiday and ending 6:00 a.m. the business day following the holiday.
- Tuesday Holidays – Beginning 6:00 AM the Friday before the holiday and ending 6:00 AM the next business day (Wednesday).

- Wednesday Holidays – Beginning 6:00 AM the Tuesday before the holiday and ending 6:00 AM the next business day (Thursday).
- Thursday Holidays – Beginning 6:00 AM the Wednesday before the holiday and ending 6:00 AM the following Monday.

15.3.4 Access to Commercial Properties and Driveways

The Design-Builder shall provide uninterrupted access to all commercial properties and driveways within the Project Limits at all times.

15.3.5 Closure Restrictions

Additional lane closures and their time periods can be found on the Thruway Authority's Standard Sheets for the Syracuse Area.

For BIN 5512790, No bridge closures, lane closures, or restrictions shall exist in the month of June of any year of this contract due to events that generate additional traffic.

For BIN 1020079, on Mohawk Street 2 travel lanes southbound and 1 travel lane northbound shall be maintained as a minimum during construction. These reductions can last no longer than 15 calendar days total, for work to remove and replace eastbound mainline structures of BIN 1020079 and 15 calendar days total, for work to remove and replace westbound mainline structures of BIN 1020079. The left turn signal must be maintained.

For BIN 5009929, on Oriskany Blvd. 1 lane in each direction shall be maintained during construction. These reductions can last no longer than 15 calendar days total, for work to remove and replace eastbound mainline structures of BIN 5009929 and 15 calendar days total, for work to remove and replace westbound mainline structures of BIN 5009929.

For BIN 5516071 and 5516072, on Millers Grove Road, alternating one way traffic shall be maintained during construction using temporary traffic signals.

15.3.6 Minimum Lane Widths during Construction

In general, the Design-Builder shall maintain a minimum travel lane width of 11 feet during construction. Shoulder widths during construction shall be 1 foot minimum.

For BIN 1020079, the travel lanes on Mohawk Street shall be a minimum of 10 feet with shoulder width minimum of 1 foot.

For BIN 5009929, the travel lanes on Oriskany Blvd. shall be a minimum of 10 feet with shoulder width minimum of 1 foot.

For BIN 5516071 and 5516072, the travel lane on Miller's Grove Road shall be 10 foot minimum.

15.3.7 Portable Variable Message Signs

The Design-Builder shall provide, as a minimum, **eight (8)** Portable Variable Message Signs, but more should the Design-Builders design dictate, for the duration of this Contract. The

Portable Variable Message Signs shall be deployed as necessary for the various WZTC schemes developed in coordination and concurrence/acceptance by the Authority's Project Manager. The portable variable message signs provided shall meet the requirements of Item No. 619.111112 (Portable Variable Message Boards with Cellular Communication).

The development of messages for the Variable Message Sign(s) shall be the responsibility of the Authority's CQAE and operations staff at the Authority's Division Office.

The Design-Builder shall contact the Authority's CQAE at least two weeks prior to placement of any Variable Message Sign regarding their location and receive concurrence of the location.

15.3.8 Temporary and Interim Pavement Markings

The Design-Builder shall provide temporary and interim pavement markings during all construction phases conforming to the requirements of the Standard Specifications.

15.3.9 Coordination with Division Traffic Management Center

The Design-Builder is advised that the Authority's Division Office will provide support for the Project's WZTC activities. Therefore, coordination among the Authority's Construction Quality Assurance Engineer, Design-Builder, and Authority's Division Office, will be required for all WZTC activities, particularly with respect to the use of Variable Message Signs (VMS)) in the Project area.

The Design-Builder shall notify the Authority's Project Manager of all lane and/or shoulder closures prior to implementation. The Authority's Project Manager will, in turn, notify the Authority's Division Office.

The Design-Builder is responsible for preparing the Road Work Form and submitting it to the Authority's Project Manager. The Road Work Form must be submitted to the Authority's Project Manager a minimum of seven (7) calendar days in advance of scheduled closures. The Authority's Project Manager will respond within four (4) calendar days after receipt of the Road Work Form.

The Road Work Form shall be supplied to the Best Value selected Design-Builder for use on this project.

15.3.10 Emergency Response and Transportation Management Plans

The Design-Builder shall notify the Authority's CQAE immediately following any impacts to motorists due to construction activities and/or unforeseen circumstances. The CQAE will be responsible for disseminating the information to the appropriate personnel/entities for appropriate response to mitigate impacts to motorists.

The Design-Builder shall prepare an Emergency Response Plan to be implemented in the event the roadway is shut down for unforeseen or unplanned circumstances. The Plan shall be implemented when the anticipated duration of closure exceeds twenty (20) minutes. The Plan shall be submitted to the Authority's Project Manager for review and comment a minimum of two weeks prior to the beginning of Work. Work on this Project shall not begin until the Design-Builder receives written notification from the Authority's Project Manager that the Emergency

Response Plan has been reviewed by the Authority and all Authority comments have been resolved.

The Emergency Response Plan shall include a notification and communication plan that describes how the Design-Builder will promptly inform the appropriate personnel/entities of an unforeseen or unplanned circumstance. No later than 30 calendar days following NTP, the Authority''s Project Manager will provide the Design-Builder with a list of personnel and entities that need to be contacted in this section of the Emergency Response Plan.

The Design-Builder shall also provide the Authority''s Project Manager a Transportation Management Plan (TMP) per FHWA's Final Rule on Work Zone Safety and Mobility, 23 CFR 630 Subpart J. The intent of the TMP is to minimize impacts to the travelling public and to provide continuity of reasonably safe and efficient road user flow and highway worker safety. The Emergency Response Plan shall be a component of the TMP and shall be located in the contingency section of the TMP.

15.3.11 Lifting Operations

The Design-Builder shall be aware that under no circumstances shall lifting operations for bridge superstructure elements, overhead sign structures, or any other items, be carried out over active traffic lanes. All such operations shall at a minimum require short-duration roadway closures in accordance with the provisions of this Section 15.

SECTION 16 PAVEMENT DESIGN AND CONSTRUCTION

16.1 SCOPE

The Design-Builder shall perform all Work necessary to provide all pavement required for the Project. This includes design, furnishing of materials, fabrication and construction of all temporary and permanent pavement for roadways within the Project Limits.

The Design-Builder shall be responsible for the review and acceptance of all submittals needed for the scope of work. The review and acceptance process shall be in conformance with the Design-Builder's accepted Quality Control Plan.

16.2 STANDARDS

The Design-Builder shall perform the pavement activities in accordance with the Contract Requirements and the applicable Standards, Design Codes and Manuals listed in Section 1.6, unless otherwise stipulated in this Project Requirement, or otherwise applicable to the Project.

16.3 REQUIREMENTS

All pavement materials except as stated below and construction methods shall be in accordance with the requirements of the NYSDOT *Standard Specifications* and the NYSDOT materials and pavement installation methods.

All asphalt pavement on the Thruway mainline shall be the 50 Series utilizing PG64Y22, with a F2 friction aggregate requirement.

Limestone and/or dolomite, regardless of the acid insoluble residue content, shall not be allowed for Type 1 or F1 friction aggregate requirements.

If the existing roadway section at the limits of work varies from the standards applicable for new or resurfaced sections, the roadway features (lane & shoulder widths and cross slope) shall be transitioned to meet the existing conditions.

16.3.1 Full Depth Reconstruction

The Design-Builder shall develop and construct pavement section(s) for full depth reconstruction, including subbase, of the Project roadways in conformance with the Comprehensive Pavement Design Manual, using the ESAL-based pavement design method.

Full depth reconstruction is required within the limits of any horizontal alignment changes, or vertical alignment changes until such point as the revised alignment meets the existing alignment. However, increases in profile elevations, up to eight inches (8"), may be made through asphalt overlays without the requirement of full depth reconstruction. No partial-width full depth reconstruction will be permitted; any roadway requiring full depth reconstruction shall be reconstructed for its full width, including shoulders, curbs and/or sidewalks.

If any roadway is permanently widened for the purpose of providing additional travel and/or turning lanes, new full depth pavement need only be developed and constructed for the widened section, provided that no other portion of the pavement within the widened section requires full depth reconstruction for any other purpose. However, the existing pavement within the widened

section shall be milled and resurfaced from curb to curb or edge of pavement to edge of pavement to provide a uniform pavement as specified in Section 16.3.2.

16.3.2 Milled and Resurfaced Roadways

The Design-Builder shall mill and resurface pavement areas as necessary to provide for a smooth transition between the existing and fully reconstructed pavement surfaces in accordance with the applicable Standard Sheets. The Design-Builder shall mill a minimum of 50’ beyond the limits of any full depth reconstructed pavement sections.

Within the horizontal limits of any widened pavement section, the existing pavement shall be milled and resurfaced in conjunction with the top course placement for the widened section in order to provide a uniform pavement within the widened section of roadway.

16.3.3 Utility Trench Restoration

Outside areas of full depth reconstruction, pavements in trench restoration areas shall match the adjacent pavement section.

SECTION 17 DRAINAGE AND STORMWATER

17.1 SCOPE

The Design-Builder shall design and construct a drainage system as needed for the estimated storm runoff that provides functionality, durability, ease of maintenance, maintenance access, safety, and pleasant aesthetics.

The Design-Builder shall be responsible for the review and approval of all shop drawings needed for the scope of work. The review and approval process shall be in conformance with the Design-Builder's accepted Quality Control Plan.

Where drainage patterns will or must be changed from existing patterns, the Design-Builder shall be responsible for securing all necessary permits prior to construction of any drainage facilities.

Prior to Project Completion, the Design-Builder shall be responsible for cleaning all new and existing drainage facilities within the Project Limits.

17.2 STANDARDS

The Design-Builder shall perform the drainage and stormwater activities, including highway, bridge and site systems, in accordance with the Contract Requirements and the applicable Standards, Design Codes and Manuals listed in Section 1.6, unless otherwise stipulated in this Project Requirement or otherwise applicable to the Project.

Stormwater shall be conveyed from point to point through the use of a single pipe. Smaller pipes in parallel shall not be permitted.

17.3 REQUIREMENTS

17.3.1 Drainage Report

The Design-Builder shall provide a Drainage Report for each bridge location to the Authority and any other entities whose facilities will be impacted by the Project in accordance with NYSDOT HDM Chapter 8. The Design-Builder shall be responsible for coordination in advance with any third party to determine the necessary document submission required by the third party. At least two weeks prior to providing documents to any third party, the Design-Builder shall submit a draft Drainage Report to the Authority's Design Quality Assurance Engineer for consultation and written comment.

The Drainage Report shall document the design criteria used, final design basis, and all supporting calculations and computer model output.

17.3.2 Connections to Existing Systems

The Design-Builder shall develop Design Plans and Project Specifications for any connections to existing storm systems. The Design-Builder shall be responsible for calculations performed to ensure there is sufficient capacity to accommodate any increase in flow due to changes in drainage catchment area and/or to land use. This paragraph shall not be construed to relieve the Design-Builder of the obligation to treat runoff water that requires treatment.

17.3.3 Spill Management

Spill prevention and response measures shall be described in the SWPPP.

17.4 DELIVERABLES

Deliverables shall be as stated elsewhere in the RFP documents.

SECTION 18 HIGHWAY DESIGN

18.1 SCOPE

The Design-Builder shall be responsible for the design, construction and reconstruction of the permanent roadway(s) to be constructed within the Project Limits, and any other roads damaged by construction operations, or necessary for permanent operations, all in accordance with the design requirements stated herein. Highway design, construction and reconstruction shall be understood to include the design, furnishing, and construction of all road appurtenances, protections, and safety devices not specifically cited in other Project Requirements.

In addition, the Design-Builder shall be responsible for the removal of non-standard systems/features that currently exist within the Project limits, whether they are affected by the proposed work or not, and replacement with systems meeting current Authority Standards and /or Authority, as per Sections 1.6 of this Part 5, unless specified differently in the Project Requirements Sections 1-17 and 19-20.

18.2 STANDARDS

The Design-Builder shall perform the Work in accordance with the Contract Documents and the Applicable Standards, Design Codes and Manuals listed in Section 1.6, unless otherwise stipulated in this Project Requirement or otherwise applicable to the Project.

18.3 REQUIREMENTS

18.3.1 General

The Design-Builder shall be responsible for performing the detailed highway design and construction within the Project Limits in accordance with the Project Requirements set forth herein.

18.3.2 Design Requirements

Design requirements for the reconstruction of ROADWAY shall be as specified below.

BIN 5009929	Oriskany Blvd.
Design Speed 70 mph	45 mph
Lane Width(s) 12ft	12ft
Shoulder width(s) Right Shoulder 12ft	6ft
Left Shoulder 8ft	6ft
BIN 1020079	Mohawk Street
Design Speed 70 mph	45 mph
Lane Width(s) 12ft	12ft
Shoulder width(s) Right Shoulder 12ft	5ft
Left Shoulder 8ft	2ft
Sidewalk(s)	5ft

BIN 5512790 Design Speed 45 mph Lane Width(s) 10ft Shoulder width(s) Right Shoulder 4ft Left Shoulder -		Thruway Mainline Under 70mph 12ft 12ft 8ft	
BIN 5512980 Design Speed 60 mph Lane Width(s) 12ft Shoulder width(s) Right Shoulder 6ft Left Shoulder		Thruway Mainline Under 70mph 12ft 12ft 8ft	
BIN 5516072 & 5516071 Design Speed 70 mph Lane Width(s) 12ft Shoulder width(s) Right Shoulder 12ft Left Shoulder 8ft		Millers Grove Road 60mph 11ft 4ft 4ft	
BIN 5510090 Design Speed Lane Width(s) Shoulder width(s)	Tangent Section 30mph 12ft Right Shoulder 6ft Left Shoulder 4ft	Ramp 30mph 16ft 6ft 4ft	Thruway Mainline Under 70mph 12ft 12ft 8ft
BIN 5510130 Design Speed 70 mph Lane Width(s) 12ft Shoulder width(s) Right Shoulder 12ft Left Shoulder 8ft			

18.3.3 Barrier Systems and Impact Attenuators

The Design-Builder shall remove and dispose of all existing barrier systems within the Project limits, and replace with new barrier systems to current Authority Standards.

The limits of work for new roadside and new median barrier shall be the lesser of the following:

1) The point where barrier is no longer warranted; or
2) A point where the proposed barrier can be transitioned to an existing barrier system which conforms to current standards.

All existing barrier systems that are removed shall become property of the Design-Builder.

18.3.4 Clear zone

The Design–Builder shall document clear zone on the final record plans.

18.4 DESIGN EXCEPTIONS AND NON-STANDARD FEATURES

It is the responsibility of the Design-Builder, in coordination with the Authority, to obtain acceptance of any non-standard features included in the final design.

SECTION 19 STANDARDS

19.1 GENERAL REQUIREMENTS

The Design-Builder shall identify the specific version of each Standard it uses. It is the Design-Builder's responsibility to obtain clarification of any apparent error, omission, ambiguity or conflict regarding any Standard in accordance with *DB §102-2*.

19.2 SPECIFIC REQUIREMENTS

The Design-Builder shall assume that all provisions of the Standards, including the figures and tables, are mandatory and guidelines contained therein shall be assumed to be requirements. All words such as "should," "may," "must," "might," "could," and "can" shall mean "shall" unless the context requires otherwise, as determined in the sole discretion of the Authority. It shall be in the Authority's sole discretion to determine when the context does not require a provision to be mandatory.

When a Standard refers to an action being necessary, needed, or recommended, the Design-Builder shall construe the action as required unless the context requires otherwise, as determined in the sole discretion of the Authority.

Where reference is made in the Standards to items that are indicated in the plans or special provisions or required in the plans or special provisions, the plans or special provisions shall mean the Design-Builder's Plans or the Special Provisions.

References in the Standards to approved products or materials shall mean approved by the Department/Authority.

All references in the Standards to the inspector, the field inspector, the project engineer, the engineer, the materials engineer, the district materials engineer, the survey crew, the project supervisor, the agency certified technician, the certified plant technician, and the representative of the Office of Materials shall mean the Design-Builder, except as otherwise expressly provided in the Contract Documents or otherwise directed by the Authority.

When a Standard refers to an approval of any correction or repair that deviates from the Contract requirements, the Acceptance must be by the Authority.

When a Standard refers to items that will be performed or provided by NYSDOT/Authority or by a Region/Division or employee of NYSDOT or of the Authority, the Design-Builder shall construe the requirements as applying to the Design-Builder unless otherwise specified in the Contract Documents, or unless the context requires otherwise. It shall be in the Authority's sole discretion to determine when the context requires otherwise.

SECTION 20 SECURITY

Section not used.