KOSCIUSZKO BRIDGE PROJECT - (BIN 1075699)

PIN X731.24, Contract D900011

DB CONTRACT DOCUMENTS

ADDENDUM #6

November 8, 2013
Modification to the Request for Proposals
Kosciuszko Bridge Project
PIN X731.24, Contract D900011

General Instructions

Delete Pages 5, 36 and 39 of the Instructions to Proposers, General Instructions and substitute with the attached revised Pages 5, 36 and 39.

Delete Pages B-6, B-7, B-20 and B-21 of the Instructions to Proposers, Appendix B – Technical Submittal and substitute with the attached revised Pages B-6, B-7, B-20 and B-21.

Delete Page C1-2 of the Instructions to Proposers, Appendix C1 – Price Proposal Base Project and substitute with the attached revised Page C1-2.

Delete Page C2-2 of the Instructions to Proposers, Appendix C2 – Price Proposal Base Project Plus the Option and substitute with the attached revised Page C2-2.

Delete Page F-5 of the Instructions to Proposers, Appendix F – Abbreviations and Definitions and substitute with the attached revised Page F-5.

Delete Page 1 of DB Contract Document – Part 1, DB Agreement and substitute with the attached revised Page 1.

Delete Pages 70, 71 and 72 of DB Contract Document – Part 2, DB Section 100, General Provisions and substitute with the attached revised Pages 70, 71 and 72.


Delete Pages 26, 42, 89, 95, and 109 of DB Contract Documents – Part 3, Project Requirements and substitute with the attached revised Pages 26, 42, 89, 95, and 109.
Delete the NYCDEP Preliminary Sewer Agreement of DB Contract Document – Part 4, Utilities and substitute with the attached revised NYCDEP Preliminary Sewer Agreement.

Delete the NYCDEP Preliminary Water Main Agreement of DB Contract Document – Part 3, Utilities and substitute with the attached revised NYCDEP Preliminary Water Main Agreement.
by the Proposer shall also become the property of the Department contingent upon the Proposer signing the Stipend Agreement.

1.5.3 Errors

If any mistake, error or ambiguity is identified by the Proposer at any time during the Proposal process in any of the documents supplied by the Department, the Proposer shall have a duty to notify the Department of the recommended correction in writing in accordance with ITP Section 2.3. Notification shall be made to the Department as soon as possible.

1.6 PROPOSAL SCHEDULE

1.6.1 Anticipated Schedule

The Department anticipates the following procurement schedule for the Contract:

<table>
<thead>
<tr>
<th>Activity</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Final RFP to Shortlisted Firms</td>
<td>August 27, 2013</td>
</tr>
<tr>
<td>Proposal period one-on-one meetings with all Proposers, specific dates to be determined</td>
<td>August 20-21, 2013 to October 1-2, 2013</td>
</tr>
<tr>
<td>Final date for Proposers to submit ATC’s for review</td>
<td>October 23, 2013</td>
</tr>
<tr>
<td>Final date for Department’s responses to ATCs submitted for review</td>
<td>November 8, 2013</td>
</tr>
<tr>
<td>Final date for receipt of Proposer questions</td>
<td>November 8, 2013</td>
</tr>
<tr>
<td>Issue date for Final Addendum and/or answers to Proposer questions</td>
<td>November 19, 2013</td>
</tr>
<tr>
<td>Final date for requests for changes to Proposer’s organization and personnel</td>
<td>November 20, 2013</td>
</tr>
<tr>
<td>Final Date for proposer to respond to conditional approval of ATCs</td>
<td>November 26, 2013</td>
</tr>
<tr>
<td>Proposal Due Date</td>
<td>December 4, 2013</td>
</tr>
<tr>
<td>Post Proposal meetings (if required)</td>
<td>December 5, 2013 to January 9, 2014</td>
</tr>
<tr>
<td>Selection of Best Value</td>
<td>January, 2014</td>
</tr>
<tr>
<td>Execution of Contract</td>
<td>Late February, 2014</td>
</tr>
<tr>
<td>Notice to Proceed</td>
<td>April 3, 2014</td>
</tr>
</tbody>
</table>

This is a tentative schedule. All dates set forth in the preceding table and in this RFP are subject to change, in the Department’s’ sole discretion. To the extent that dates are changed, the Department shall notify the Proposers by Addendum.
C. 11, 12, 13, 14 and 15 are of equal importance to each other and are more important than the Key Personnel positions in D below; and

D. 16, 17, 18, 19 and 20 are of equal importance to each other.

See ITP Appendix B for additional detail regarding this factor and the specific information to be submitted as part of the Proposal and ITP Appendix F for definitions of Key Personnel.

7.1.2.2 Technical Solutions

Evaluates the Proposer’s understanding, approach, capabilities and commitments to the delivery of design and construction solutions that meet or exceed the Project’s goals and objectives.

Objectives: The objective of this evaluation factor is to identify Proposers that propose design and construction solutions that are well planned and coordinated. The technical evaluation subfactors for the design and construction solution factor are as follows:

A. Design – evaluates how well the Proposer understands the design challenges of each of the structure types and how the Proposer intends to comply with the design requirements;

B. Constructability:
   • Base Project – evaluates how well the Proposer understands the construction challenges for the Base Project and the means and methods proposed for construction and demolition in stages while protecting existing facilities and minimizing impacts to traffic;
   • Base Project plus the Option – evaluates how well the Proposer understands the construction challenges for the Base Project plus the Option and the means and methods proposed for construction and demolition in stages while protecting existing facilities and minimizing impacts to traffic;

C. Service Life and corrosion protection of the Structures – evaluates how innovative and cost effective the Proposer is in maximizing the service life of the Bridge, and in minimizing and simplifying maintenance operations during the service life of the Bridge;

D. Visual Quality and Lighting:
   • Base Project - evaluates how creative the Proposer is in its design and construction solution for the Base Project that contributes to the aesthetics of the new bridge including the proposed lighting;
   • Base Project plus the Option – evaluates how creative the Proposer is in its design and construction solution for the Base project plus the Option that contributes to the aesthetics of the new bridge including the proposed lighting;

E. Geotechnical - evaluates how well the Proposer understands and proposes to address the foundation design and construction, settlement, and earth stability aspects of the Project; and

F. Environmental Compliance Approach – evaluates how well the Proposer understands the environmental requirements and how the Proposer will meet the environmental and permitting requirements during the design and construction of the Project.
CPM Schedule (Base Project plus the Option) — evaluates the integrated logic and scheduling of design and construction activities including Project Completion for the Base Project plus the Option; the start and end dates of work zone traffic control activities and start and end dates of the construction stages and Base Project plus the Option completion. Schedule should show start and completion dates of all critical design and construction phases of the Base Project plus the Option, when traffic (both eastbound and westbound) is transferred from the existing bridge to the new eastbound bridge, duration of demolition works, as well as the duration of any detours. The design and construction activities shall be detailed sufficiently to show the start and completion of all major design and construction activities.

All aspects of schedule are of equal importance.

7.1.2.5 Project Support
Evaluates the Proposer’s understanding, capability, approach, and commitments to providing support to the Department in the implementation of their Kosciuszko Project Public Involvement Plan (PIP; see Part 3 Project Requirement 8 – Public Involvement). The PIP is intended to engage public and agency participants in a constructive exchange of views and information on aspects of the Project.

Objective: To identify a Proposer who will provide quality planning and execution of support to the Department in community relations, public information, and community outreach.

All aspects of Project support are of equal importance.

See ITP Appendix B for additional detail regarding this factor and the specific information to be submitted as part of the Proposal. The Proposer’s Initial PIP Support Plan will be evaluated for this factor.

7.1.3 Price
The Proposer shall submit its Pricing Information for the Base Project and the Base Project plus the Option in accordance with the ITP Appendices C1 and C2 respectively. The total price shown in the Pricing Information for the Base Project shall be the Contract Price, as agreed to by the Department less the unused portion of the lump sum prices for the Design-Build – Force Account Work (Item No. 800.04000015) and the Design-Build - Partnering Workshop (Item No. 800.09000015), if the Base Project plus the Option is not selected and the Contract is Awarded.

The total price shown in the Pricing Information for the Base Project plus the Option shall be the Contract Price, as agreed to by the Department less the unused portion of the lump sum prices for the Design-Build – Force Account Work (Item No. 800.04000015) and the Design-Build - Partnering Workshop (Item No. 800.09000015), if the Base Project plus the Option is selected and the Contract is Awarded.

Specific information to be submitted is identified in the ITP Appendices C1 and C2. Each Proposal shall specify the sum for which the Work will be performed according to the RFP. The Department, reserves the right to reject any Proposal in which any of the prices are significantly unbalanced to the potential detriment of the Department.

The Department may determine that the Price Proposal is non-responsive if the Department determines, in its sole discretion, that the Price Proposal does not provide all information in conformance with the RFP.
B. Provide a life-cycle cost analysis, consistent with the methodology and process steps described in FHWA 02 047, Life-Cycle Cost Analysis Primer, that includes all scheduled maintenance, impacts to traffic costs, expected maintenance intervals, and cost in 2013 dollars using a discount rate of 3%; The Life-Cycle Cost Analysis shall not include the Proposer’s Proposed price for the Base Project or Base Project plus the Option. The impact to traffic costs shall be calculated assuming a user delay cost of $10,000 per lane closure hour.

C. Provide supporting drawings (on 11"x17" sheets of paper) showing how access to the Project will be achieved for future maintenance and inspection. Include location of access elements with approximate sizes and clearances along with maintenance and inspection equipment that will be required.

D. Describe the details and materials that will be used or evaluated for elements susceptible to the corrosion, including those details and materials proposed for the stay cables and anchorages;

E. Describe how the Proposer’s design and construction approach will achieve and/or extend the service life of structures and structural elements; and

F. Describe how the Proposer’s design and construction approach will minimize short-term and long-term maintenance efforts and costs for the completed Project. Proposers should identify elements of the Proposal that will enhance the long-term beneficial use of the Project by the Department and the public.

B3.4 VISUAL QUALITY AND LIGHTING PLAN

B3.4.1 Base Project

The Proposer should provide an Initial Visual Quality and Lighting Plan (VQP) that should include elevation views, plan views, cross sections and details for each main span, approaches, retaining walls, local streets and all elements that are included in the visual impact of the project. The preliminary plan should define the configuration and details of the primary structural members, including height, shape, tapers, approximate dimensions, cross sections, orientation, and architectural details.

Provide architectural concept drawings and renderings, along with supporting narratives that comply with the visual criteria set forth in Part 3 – 8. Visual Quality for both the Eastbound and Westbound structures as follows:

A. Aesthetic concepts for the main cable-stayed structure addressing the different perspectives of a driver and a distant observer located from the points depicted in the Preliminary Visualizations, provided in Contract Documents Part 7 - Engineering Data.

B. Aesthetic concepts for the bridge approaches and connectors, demonstrating harmony with the main span concepts and approaches, as well as concepts for the support piers, columns, abutments and associated earth retaining structures.

C. Concepts for the shared-user path with detailed examples of how non-vehicular users of the new crossing will interface and relate to the structure, roadway and Project components.

D. Color renderings showing architectural concepts proposed.
In addition, the Proposer should provide colored night time renderings of the proposed lighting concept, along with supporting narratives that address:

E. Spacing and location of poles, types of luminaires, and controls including meeting requirements of New York City Department of Transportation;

F. Aesthetic lighting plans for the main span structure (inclusive of towers, cables, deck, under-structure, and piers), the approach structures, and the bikeway/walkway from all primary perspectives and demonstrating compatibility among these elements;

G. Maintenance access to luminaries and proposed vandalism protection;

H. Proposed methods to address concepts discussed in the Revaluation Statement to minimize impacts on migrating birds; and

I. Proposed methods to meet Dark Sky goals and minimize light spill on the community.

B3.4.2 **Base Project Plus the Option**

The Proposer should include a narrative describing the proposed construction methods and construction sequence for the Base project plus the Option that meets all of the requirements outlined in Section B3.4.1 above.

**B3.5 **GEOTECHNICAL WORK PLAN**

The Proposer should submit an Initial Geotechnical Work Plan that should include:

A. A summary of the Proposer’s knowledge and understanding of the geotechnical, geologic, hydrogeology and seismic settings of the Project site and how the nature and behavior of the soil, rock, groundwater and subsurface conditions will affect the design and methods of construction;

B. Minimum numbers, depths and types of subsurface investigations that the Proposer would, if awarded the Contract, perform, in order to facilitate the design and construction of the Base Project and the Base Project plus the Option, including a narrative of why the Proposer is proposing the specific subsurface investigations and the in-situ tests and laboratory tests the Proposer intends to perform;

C. Anticipated design approach and method of analysis to determine the site specific seismic response spectra and liquefaction assessment for the design earthquakes.

**B3.6 **ENVIRONMENTAL COMPLIANCE PLAN**

The Technical Proposal should provide an Initial Environmental Compliance Plan that describes how the Proposer will comply with applicable environmental and permitting commitments and requirements during the performance of the design and construction Work. The Initial Environmental Compliance Plan should:

A. Describe how the Proposer intends to comply with the Project’s environmental requirements and commitments, including the environmental requirements in the Contract Documents and the EIS. Describe how the Proposer will identify, track, verify and report that these requirements and commitments have been met;

B. Identify the mitigation plans that the Proposer will develop for environmentally sensitive aspects of the Work, addressing potential Work activities related to the natural
Table B

Format of Volume 2

<table>
<thead>
<tr>
<th>Proposal Component</th>
<th>Reference</th>
</tr>
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<tbody>
<tr>
<td><strong>Volume 2, Section 1 – Key Personnel</strong></td>
<td></td>
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<tr>
<td>Key Personnel Resumes (maximum 2 pages each resume)</td>
<td>B2.0</td>
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<tr>
<td>Form R – Summary of Individuals Experience</td>
<td>B2.0</td>
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<tr>
<td><strong>Volume 2, Section 2 – Technical Solutions Submittal</strong></td>
<td></td>
</tr>
<tr>
<td>Design Plan (maximum 10 pages)</td>
<td>B3.1.1</td>
</tr>
<tr>
<td>Copies of Department’s approval letters for each ATC that is incorporated into the Proposer’s proposal</td>
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<tr>
<td>Constructability Plan (See Tables B1 and B2)</td>
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<tr>
<td>Service Life and Initial Corrosion Protection Plan (maximum. 15 pages plus supportive drawings)</td>
<td>B3.3</td>
</tr>
<tr>
<td>Visual Quality and Lighting Plan (See Tables B1 and B2)</td>
<td>B3.4</td>
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<tr>
<td>(Visual Quality: maximum 3 pages plus up to 7 concept drawings and 4 color renderings from defined viewpoints)</td>
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<tr>
<td>(Lighting: maximum 2 pages plus up to 5 plans and 3 color renderings)</td>
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<tr>
<td>Geotechnical Work Plan (maximum 5 pages)</td>
<td>B3.5</td>
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<tr>
<td>Environmental Compliance Plan (maximum 5 pages)</td>
<td>B3.6</td>
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<td><strong>Volume 2, Section 3 – Management Plans</strong></td>
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<tr>
<td>Overall Design-Build Team Organization Plan (max. 4 pages plus organization charts and resumes of personnel not identified as key personnel)</td>
<td>B4.1</td>
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<td>Design Management Plan (maximum 4 pages plus organization charts)</td>
<td>B4.2</td>
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<tr>
<td>Construction Management Plan (maximum 5 pages plus organization charts)</td>
<td>B4.3</td>
</tr>
<tr>
<td>Initial Traffic Management Plan (maximum 4 pages plus drawings)</td>
<td>B4.4</td>
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<tr>
<td>Initial Risk Management Plan (maximum 5 pages)</td>
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<tr>
<td>Initial Quality Control Plan (maximum 40 pages plus organization charts and resumes of QC personnel not identified as key personnel or included in the Overall Design-Build Team Organization Plan)</td>
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<td><strong>Volume 2, Section 4 – Schedule</strong></td>
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<tr>
<td>Initial Phasing/Sequencing Plan (See Tables B1 and B2)</td>
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<tr>
<td>Initial Baseline Schedule and Form SCD (See Tables B1 and B2)</td>
<td></td>
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<tr>
<td><strong>Volume 2, Section 5 – Project Support</strong></td>
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<tr>
<td>Public Involvement Program Support Plan (maximum 3 pages)</td>
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<td><strong>Volume 2, Attachment A – Design Drawings</strong></td>
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<td>Design Drawings</td>
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Note: Volume 2, Attachment A – Design Drawings, shall be submitted in a separate 11”x17” binder.
Table B1
Format of Volume 2A

<table>
<thead>
<tr>
<th>Proposal Component (Base Project Only)</th>
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<tbody>
<tr>
<td>Volume 2, Section 2 – Technical Solutions Submittal</td>
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<tr>
<td>Constructability Plan (Base Project) (maximum 10 pages)</td>
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<td><strong>Visual Quality and Lighting Plan (Base Project)</strong></td>
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<td>(Visual Quality: maximum 3 pages plus up to 7 concept drawings and 4 color renderings from defined viewpoints)</td>
<td>B3.4.1</td>
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<td>(Lighting: maximum 2 pages plus up to 5 plans and 3 color renderings)</td>
<td></td>
</tr>
<tr>
<td>Volume 2, Section 4 – Schedule</td>
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</tr>
<tr>
<td>Initial Phasing/Sequencing Plan (Base Project)</td>
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<tr>
<td>Initial Baseline Schedule and Form SCD (Base Project)</td>
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Table B2
Format of Volume 2B

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<td>Constructability Plan (Base Project Plus the Option) (maximum 10 pages)</td>
<td>B3.2.2</td>
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<td><strong>Visual Quality and Lighting Plan (Base Project Plus the Option)</strong></td>
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<tr>
<td>(Lighting: maximum 2 pages plus up to 5 plans and 3 color renderings)</td>
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<tr>
<td>Volume 2, Section 4 – Schedule</td>
<td></td>
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<tr>
<td>Initial Phasing/Sequencing Plan (Base Project Plus the Option)</td>
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</tr>
<tr>
<td>Initial Baseline Schedule and Form SCD (Base Project Plus the Option)</td>
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</table>
C) The Lump Sum Price for each Price Item shall be the total price to complete all Work for that Price Item, including such planning, management, overhead, design, materials, labor, use of tools and equipment, hazardous material and environmental inspections and remediations, Utility Work, and other Work as required to complete such Work and such costs necessary to integrate the Work with the Work of other Price Items except those costs included in other Price Items;

D) The sum of the Lump Sum Price for each Price Item shall be the Proposal Price. The Proposal Price will become the Contract Price, as agreed to by the Department less the unused portion of the lump sum prices for the Design-Build – Force Account Work (Item No. 800.04000015) and the Design-Build - Partnering Workshop (Item No. 800.09000015), upon Award of the Contract.

C2.3 WORK PAYMENT SCHEDULE

Using Form WPS, provide the proposed percent of the Lump Sum Price for Design-Build Construction Work (Item No. 800.06000115) for each Work Item listed on the Form. The total percent for all Work Items shall equal 100%.

C3.0 FORMAT FOR VOLUME 3A

C3.1 PRICE PROPOSAL

Organize and submit the Price Proposal in the format shown in Table C1 by the Proposal Due Date.

Table C1
Format of Volume 3A

<table>
<thead>
<tr>
<th>Section</th>
<th>Description</th>
<th>Appendix Reference</th>
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</thead>
<tbody>
<tr>
<td>Section 1</td>
<td>• Form PP, Price Proposal Cover Sheet</td>
<td>C2.1</td>
</tr>
<tr>
<td>Section 2</td>
<td>• Form SP, Schedule of Prices</td>
<td>C2.2</td>
</tr>
<tr>
<td></td>
<td>• Form WPS, Work Payment Schedule</td>
<td>C2.3</td>
</tr>
</tbody>
</table>
A) Price in US dollars ($);
B) Provide a lump sum price for each Price Item on Form SP;
C) The Lump Sum Price for each Price Item shall be the total price to complete all Work for that Price Item, including such planning, management, overhead, design, materials, labor, use of tools and equipment, hazardous material and environmental inspections and remediations, Utility Work, and other Work as required to complete such Work and such costs necessary to integrate the Work with the Work of other Price Items except those costs included in other Price Items;
D) The sum of the Lump Sum Price for each Price Item shall be the Proposal Price. The Proposal Price will become the Contract Price, as agreed to by the Department less the unused portion of the lump sum prices for the Design-Build – Force Account Work (Item No. 800.04000015) and the Design-Build – Partnering Workshop (Item No. 800.09000015), upon Award of the Contract.

C2.3 WORK PAYMENT SCHEDULE

Using Form WPS, provide the proposed percent of the Lump Sum Price for Design-Build Construction Work (Item No. 800.06000115) for each Work Item listed on the Form. The total percent for all Work Items shall equal 100%.

C2.4 PROPOSAL BOND

Using Form PB, submit a Proposal Bond in the sum indicated in the Appendix to Form of Proposal (Form FP(A)). See also ITP Section 2.10.

C3.0 FORMAT FOR VOLUME 3B

C3.1 PRICE PROPOSAL

Organize and submit the Price Proposal in the format shown in Table C2 by the Proposal Due Date.

<table>
<thead>
<tr>
<th>Section</th>
<th>Description</th>
<th>Appendix Reference</th>
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</thead>
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<tr>
<td>Section 1</td>
<td>• Form PP, Price Proposal Cover Sheet</td>
<td>C2.1</td>
</tr>
<tr>
<td>Section 2</td>
<td>• Form SP, Schedule of Prices</td>
<td>C2.2</td>
</tr>
<tr>
<td></td>
<td>• Form WPS, Work Payment Schedule</td>
<td>C2.3</td>
</tr>
<tr>
<td>Section 3</td>
<td>• Form PB, Proposal Bond</td>
<td>C2.4</td>
</tr>
</tbody>
</table>
“Design-Builder” means the Person selected pursuant to the RFP that enters into the Contract with the Department to design and construct the Project. (Also referred to as the “Design-Build Team”).

“Design Manager” means the Design-Builder’s designated person who shall have primary responsibility for coordination and oversight of the all the Project Designs including design plans, calculations, and specifications He shall be a registered Professional Engineer in the State of New York.

“Design Quality Assurance Engineer” means the Department’s representative with primary responsibility for monitoring and/or auditing the Design-Builder’s design and engineering activities for compliance with the Contract requirements and the Design-Builder’s Quality Control Plan.

“Designer” means a Principal Participant, Specialty Subcontractor, or in-house designer that has primary responsibility for design services for the Project.

“Disadvantaged Business Enterprise (DBE)” means a for-profit, small business concern as defined pursuant to Section 3 of the federal Small Business Act (Public Law 85-536, as amended) and Small Business Administration regulations implementing it (13 CFR Part 121) that is at least 51 percent owned by one or more individuals who are both socially and economically disadvantaged or, in the case of a corporation, in which 51 percent of the stock is owned by one or more such individuals and whose management and daily business operations are controlled by one or more of the socially and economically disadvantaged individuals who own it, which meets the definitions set forth in 49 Code of Federal Regulations (CFR) 26.

“Engineer-in-Charge (EIC)” means the Department’s Project Manager or designated representative when used in the NYSDOT standard specifications. When used in the Archaeological Work Plan (AWP), the Construction Protection Plan (CPP), and the Stormwater Pollution Prevention Plan (SWPPP) Engineer-in-Charge (EIC) means the Design Builder’s Resident Engineer.

“Environmental Compliance Manager” means the Design-Builder’s designated person who working under the direction of the Project Manager shall have primary responsibility for ensuring that all of the Project’s Environmental requirements are satisfied. Such individual shall be a registered Professional Engineer in the State of New York.

“Equity Participant” means any Person holding (directly or indirectly) a 15% or greater interest in the Proposer.

“Fabricator” means an individual, partnership, firm, Limited Liability Company (LLC), corporation, or joint venture with which the Design-Builder subcontracts to assemble, construct, or otherwise substantially alter Material or supplies into assemblies, components, or finished items for inclusion into the Work prior to resale.

“Fast Track Design” means the process of performing the design of a project in increments of the final design for the purpose of allowing the project construction to begin before the final design of a project is completed. Fast Track Design will allow the project design and construction activities to overlap and occur simultaneously thereby shortening the total duration of those activities.
DESIGN-BUILD (DB) AGREEMENT

Contract No. ______________________

County __________________________

THIS DB AGREEMENT, entered into this ___ day of ________, 20__, by THE PEOPLE OF THE STATE OF NEW YORK, hereinafter referred to as the “State,” acting by and through the New York State Department of Transportation (the “Department”), pursuant to the New York State Highway Law, and

☐ A corporation organized and existing under the laws of the State of _____________, or

☐ A partnership, consisting of ________________________________________________, or

☐ A Limited Liability Company (LLC), consisting of ____________________________, or

☐ A joint venture, consisting of ____________________________________________, or

☐ An individual conducting business as _______________________________________,

the location of whose principal office is ______________________________________________,

WITNESSETH: That the State and the Design-Builder (hereinafter referred-to as the “Design-Builder” in the contract documents), for the consideration hereinafter named agree as follows:

ARTICLE 1. COMPENSATION

Article 1.1. Contract Price
As full compensation for the Work, the Department will pay the Design-Builder a lump sum of __________, which shall equal the total lump sum proposal price for the Project, as agreed to by the Department, less the unused portions of the lump sum prices for the Design-Build – Force Account Work (Item No. 800.04000015) and the Design-Build - Partnering Workshop (Item No. 800.09000015). See also DB Section 109-9. The Contract Price may be subject to adjustment from time to time by Orders on Contract.

See DB Section 101-3 for definitions Contract, Contract Price, and Work.

Article 1.2. Executory Clause
In accordance with Section 41 of the New York State Finance Law, this Contract shall be deemed executory only to the extent of money available to the State for the performance of the terms hereof and no liability on account thereof shall be incurred by the State beyond moneys available for the purpose thereof.

ARTICLE 2. CONTRACT TIME

Article 2.1. Notice To Proceed
The Design-Builder agrees that it will begin the Work herein embraced upon receipt of the Notice To Proceed (NTP), unless the consent of the State, in writing, is given to begin at a later date, and that it will
DB 104-3  CONTINGENCIES, EXTRA WORK, AND DEDUCTIONS

DB 104-3.1  Right to Issue Orders on Contract

The provisions of the Agreement, Article 8 – Alterations and Omissions shall apply. Whenever the Department determines that, from any unforeseen cause, the terms of the Contract should be altered to provide for changes, contingencies, Extra Work or the deletion of Work, an Order on Contract may be issued to the Design-Builder, who shall promptly proceed with the performance of the Work, as so modified, and the designing and furnishing of the materials and equipment necessary for its accomplishment.

No instructions, either written or verbal from any employee or agent of the Department shall be construed as an order for changes until receipt by the Design-Builder of written notification that an Order on Contract has been approved by the Department, or written notification from the Department’s Project Manager that changes in the Work are eligible and authorized for payment in accordance with DB §109. Otherwise, payment for any unforeseen Work shall be made only if the Design-Builder complies or has complied with all of the provisions of DB §§104-3.2, 104-4, 104-5, 104-6, 104-7, 109-9, 109-10 and 109-15, as applicable.

DB 104-3.2  Significant Changes in the Character of Work

If the Department wishes to add Work to this Contract, such addition may be considered a significant change in the character of the Work. In such event an adjustment shall be made to the Contract.

A significant change in the character of the Work shall also be deemed to occur if the Department directs the Design-Builder to delete or modify the Work such that this Contract would no longer be considered a Design-Build contract for the Project of the nature described in the Contract Documents. In such event, the Design-Builder shall perform the Work not terminated as directed by the Department. If a basis for adjustment of the Contract Price cannot be agreed upon, then an adjustment shall be made in such amount as the Department’s Project Manager may determine to be fair and equitable, excluding anticipated profit for the Work that has been deleted. If deletion or modification of the Work creates float in the schedule enabling early completion, the Order on Contract may include an appropriate modification of the Contract Deadlines.

Alterations in the scope of the Work that are specifically contemplated by the Contract shall not be considered significant changes in the character of the Work. If the alterations to the scope of Work do not significantly change the character of the Work, the altered Work will be paid for as provided elsewhere in the Contract.

The Design-Builder shall comply with the notice, recordkeeping and other requirements of DB §§104-4, 104-5, 104-6, 104-7, 108-6, 109-9, 109-10 and 109-15, as applicable, with respect to any request to adjust the Contract Price or the Contract Time due to an alleged significant change in the character of the Work. The Department will have no liability and no adjustment will be made for any damages (i) if the Design-Builder fails to comply with such requirements or (ii) which accrued more than 10 work days prior to the filing of such a notice.
DB 104-4 CHANGES IN BASIC PROJECT CONFIGURATION; UTILITY RELOCATIONS;
HAZARDOUS MATERIALS; ENVIRONMENTAL MITIGATION

DB 104-4.1 Changes in Basic Project Configuration

The Department acknowledges and agrees that the Design-Builder’s Proposal was based on certain basic information presented by the Department regarding the nature of the Project to be constructed as documented in the RFP. This basic information is considered the Basic Project Configuration. Except as authorized by an Order on Contract, the Design-Builder shall not make any material change in Basic Project Configuration. Non-material Department-Directed Changes may be covered by an Order on Contract whether they are within the parameters of the Basic Project Configuration or not. Department-Directed Changes may be ordered without any change in the Contract Price or extension of the Contract Time, provided the change is ordered prior to completion of the Definitive Design Review for the affected Design Unit(s).

DB 104-4.1.1 Section Deleted_Standard for Determining Materiality of Change in Basic Project Configuration

The standard for determining whether a material change in the Basic Project Configuration has occurred is set forth in Part 3, Project Requirements. Any change in Basic Project Configuration that does not qualify as a material change under the standards set forth in Part 3, Project Requirements shall not be considered material.

DB 104-4.1.2 Necessary Basic Project Configuration Change

Notwithstanding the fact that this Contract generally obligates the Design-Builder to undertake all Work necessary to complete the Project without changes in the Contract Price, this DB §104-4.1.2 provides for a change in the Contract Price to be made in conjunction with Necessary Basic Project Configuration Changes. If any Necessary Basic Project Configuration Change increases or decreases the cost of performing the Work, then the Department will issue an Order on Contract to adjust the Contract Price accordingly. Furthermore, if the Design-Builder commences any construction Work affected by the change prior to delivery of appropriate notice of the change to the Department under this DB §104, the Order on Contract shall allow the Department a credit for the cost of any unnecessary Work performed and/or shall exclude any additional costs associated with redoing the Work already performed. The Order on Contract shall also account for any offsets from Orders on Contract previously issued.

In the event that the Department approves a Necessary Basic Project Configuration Change that reduces the Design-Builder’s costs, the Order on Contract shall note the amount of cost decrease available for future offsets.

If a Necessary Basic Project Configuration Change results in a Critical Path delay, the Order on Contract may include an appropriate extension of time and/or time-related damages. If a Necessary Basic Project Configuration Change creates float in the schedule thus allowing early completion without additional cost, the Order on Contract shall include an appropriate modification of the contract deadlines accelerating the time for completion.
The notice, recordkeeping and other requirements of DB §§104-7, 108-6, 109-9, 109-10 and 109-15 shall apply with respect to any request to adjust the Contract Price or the Contract Time due to a Necessary Basic Project Configuration Change.

DB 104-4.1.3 Relationship to VECP

If a Value Engineering Change Proposal (VECP) results in a material change in Basic Project Configuration, any cost savings from such VECP shall be shared in accordance with DB §104-13.

DB 104-4.1.4 Inaccuracies in RFP Plans

The Design-Builder shall be responsible for any cost increases and/or delays resulting from changes in requirements and obligations of the Design-Builder relating to the Project due to inaccuracies in the RFP Plans other than an error, omission, or defect in the Directive Plans constituting or requiring a material change in the Basic Project Configuration. If any such changes occur, no change in the Work shall be deemed to have occurred and no Order on Contract will be issued for any such cost increases and/or delays, unless the change qualifies as a Necessary Basic Project Configuration Change. Accordingly, any non-material changes in the Basic Project Configuration shall be the responsibility of the Design-Builder. The Design-Builder shall be responsible for any cost increases and/or delays resulting from changes in requirements and obligations of the Design-Builder relating to the Project due to inaccuracies in the RFP Plans other than an error, omission, or defect in the Directive Plans constituting or requiring a material change in the Basic Project Configuration. If any such changes occur, no change in the Work shall be deemed to have occurred and no Order on Contract will be issued for any such cost increases and/or delays, unless the change qualifies as a Necessary Basic Project Configuration Change. Accordingly, any non-material changes in the Basic Project Configuration shall be the responsibility of the Design-Builder.

DB 104-4.1.5 Applicability of Orders on Contract

In general, the Design-Builder may implement non-material changes in the Basic Project Configuration without an Order on Contract, unless the change involves a circumstance for which an Order on Contract is specifically required hereunder.

DB 104-4.2 Changes Applicable to Utility Relocations

All public and private utilities within or adjacent to the Work Sites, that are known to the Department, are described in the Contract Documents. The Design-Builder is cautioned that the number, type, size, location and configuration of the Utilities are not guaranteed; nor is there a guarantee that all existing Utilities are described in the Contract Documents.

The following provisions govern entitlement to Orders on Contract with respect to Relocation of utilities.

DB 104-4.2.1 Inaccuracy of Utility Information

A) If any underground utility requiring Relocation by the Design-Builder is not indicated at all in the Contract Documents, or is materially inaccurately indicated therein (as specified in Part 4 – Utility Requirements), then the Design-Builder shall be entitled to an Order on Contract with respect to any increase in the Design-Builder’s costs of performing the Work that is directly attributable thereto. Notwithstanding the foregoing, the Design-Builder shall be fully liable for, and no Order on Contract shall be issued under this DB §104-4.2 with respect to, any such underground utility that was known to the Design-Builder prior to the Proposal Date or that would have been known to the Design-Builder by undertaking a reasonable investigation prior to the Proposal Date, including any utility as to which surface inspection of the area would have shown its existence or the likelihood of its existence in the correct location, size, and/or material, as applicable, by reason of the existence of above-ground facilities, such as buildings, meters, junction boxes, or identifying markers.
KOSCIUSZKO BRIDGE PROJECT – PHASE 1
(BIN 1075699)
DESIGN-BUILD PROJECT

PIN X731.24, Contract D900011

DB CONTRACT DOCUMENTS
PART 2

DB SECTION 112
CONSTRUCTION QUALITY CONTROL AND
QUALITY ASSURANCE

APPENDIX 112A
CONSTRUCTION QUALITY CONTROL
INSPECTION

ADDENDUM 6 - NOVEMBER 8, 2013
The Design-Builder shall use the following table as a guide for development of a Quality Control Plan, as a minimum level of Quality Control (QC) activities, as defined in DB Section 113. The Quality Control Plan shall provide for materials quality control and construction Inspection (CI) practices oversight. In general, the Design-Builder shall employ an independent Construction Inspection Professional Engineering Firm and a Materials and Testing Firm or Laboratory that will be responsible to assure compliance of materials and construction inspection activities to all Department standards.

The frequency of QC activities shall be at least equal to current Department practices as established in the Specifications, Materials Methods and Procedures, Granular Control Procedures, and other Department documents. The Quality Control Plan will specifically and clearly define all QC activities to be performed by the Design-Builder, documentation and records to be managed including forms that will be used, and frequencies of sampling and testing.

The Design-Builder shall provide in the Quality Control Plan all the various materials planned for use and the specific certifications and/or sampling and testing to be progressed for QC purposes to assure durability of the material. For development of the Quality Control Plan, the DB should be aware of the following materials considerations:

- All domestic off-site materials sampling and testing for QA operations will be performed by the Department. This includes but is not limited to earthwork and gravel borrow sources, Hot Mix Asphalt materials and production, Concrete materials and concrete production, steel, precast products, masonry, bearings, structural steel paints – shop applied, bridge railing, guiderail, traffic control materials, sign structures, frames and grates, and any other materials deemed necessary to assure product quality. The Design-Builder may perform QC as deemed appropriate or desired at off site locations.

- Bearing production at manufacturer’s locations will be observed by the Department however, the Design-Builder will be responsible for hiring an independent testing firm or laboratory to perform all bearing testing. The Design-Builder will receive from the independent lab a certification that all bearings are in conformance to specification requirements. The Department will perform sampling and testing for verification purposes.

Use of Approved List materials is expected for commonly available products. Use of materials that are not on the Approved List, but for which an Approved List category exists, will require the Design-Builder to provide appropriate evaluation and test results, conforming to current DOT procedures for product evaluation, to prove durability of the material for the planned use, to the satisfaction of the Department. Such product evaluation will typically consist of lab testing per AASHTO, ASTM, or Department requirements, performed by an independent certified laboratory. Upon verification of product acceptability by the Department, the product(s) will be included on the Approved List of Materials. Products where acceptability cannot be verified cannot be used and will not be included on the Department’s Approved List of Materials. Products previously approved by the Department’s New Product Evaluation Committee may be used however, sampling and testing results may be required.

Use of materials for which there is not an Approved List category will require, in the Quality Control Plan, those tests and evaluations to prove the durability of unique materials before use in the Project. In many cases, physical testing should be performed by an independent laboratory. A planned frequency of sampling and testing, commensurate with the level of risk of the product proposed for use, must be provided in the Quality Control Plan.
The forms listed in the column “Documentation Form(s)” are those that the Department presently uses. The Design-Builders may use their own forms, provided that their forms record the same information documented by the Department’s forms.

The Department will progress QA for materials acceptance and verification that the Construction Inspection Professional Engineer Firm and the Materials Testing Firm or Laboratory are controlling QC activities in conformance with the Contract Documents.

Quality Assurance on the Design-Builders’ QC activities may be progressed according to values defined in the “Quality Assurance Actions / Frequencies” column of the following table. The level of risk for various items will determine the frequency at which the Department will conduct quality assurance / verification sampling and testing. Statistical methods may be considered for use by the Department to evaluate the effectiveness of sampling and testing results from QC for use as acceptance. The QA Actions and Frequencies column defines those actions and the frequency thereof that the Department expects to take to provide quality assurance of materials and construction inspection activities. Final determination of these actions and frequencies will be developed specific to the Quality Control Plan provided by the Design-Builder.

QA of Construction Inspection operations will typically consist of verifying that the Design-Builder, Construction Inspection Professional Engineer Firm and the Materials Testing Firm or Laboratory are performing and assuring all construction operations adhere to Department Specifications and Standards and/or the Design-Builders Quality Control Plan. The Department shall have the authority to perform sufficient inspections and/or tests of the Design-Builders Work to verify that the inspections and/or tests performed by the independent Construction Inspection Professional Engineering Firm and the Materials testing firm/laboratory are in compliance with the Contract, the design and specifications, the Design-Builders approved Quality Control Plan, as well as the Department’s standards and practices.

The Department will have access to all activities and records of the Design-Builder, the Construction Inspection Professional Engineer Firm and the Materials Testing Firm or Laboratory retained by the Design-Builder for the purpose of assuring that the construction and inspection activities are being conducted in compliance with the Contract, the design and specifications, the Design-Builders approved Quality Control Plan, as well as the Department’s standards and practices.

All QA activities of the Department will provide assurance that materials and methods are such that, when Final Acceptance of the project is requested, the Department is confident that all materials and work conforms to plans, specifications, and standards. These verifications will document the acceptance of the work for payment purposes and assure all non-conformances have been satisfactorily addressed.

The Department shall have the authority to stop work specific to Work Zone Traffic Control for all work sites and for the overall safety of the work site to ensure that it is safe for the workers, the inspection staff and the public.

Nothing in the scope of the Department’s QA role shall be construed to relieve the Design-Builders the Construction Inspection Professional Engineer Firm and the Materials Testing Firm or Laboratory of their responsibilities for full time construction inspection and compliance with the Contract, the design and specifications, the Design-Builders approved Quality Control Plan, as well as the Department’s standards and practices.
<table>
<thead>
<tr>
<th>Specification Section</th>
<th>QC Inspection Requirements</th>
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</tr>
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</table>
| All - General          | ▪ Location and type of Work  
                          ▪ Personnel and Equipment  
                          ▪ Weather and Site conditions  
                          ▪ Checks for Compliance with Design Plans and Project Specifications  
                          ▪ Extent of Work  
                          ▪ Problems encountered | MURK 1d (DB CQC), MURK 2b (DB-CQC), Design-Builder’s Daily QC Project Diary |
| 201 – Clearing and Grubbing | ▪ Clearing and grubbing limits  
                           ▪ Disposal  
                           ▪ Salvage of marketable timber  
                           ▪ Protection and restoration | MURK 1d (DB CQC) |
| 202 – Removal of Structures and Obstructions | ▪ Safety  
                           ▪ Engineering survey  
                           ▪ Utilities (capping and protection)  
                           ▪ Unauthorized entry  
                           ▪ Hazardous Materials occurrence  
                           ▪ Exterminations  
                           ▪ Dust control  
                           ▪ WZTC  
                           ▪ Disposal of Materials  
                           ▪ Salvage | MURK 1d (DB CQC) |
| 203 – Excavation and Embankment | General Requirements:  
                           Stated in the Standard Specifications, CIM and MURK Part 1B. | General:  
                           IR’s  
                           GEB Manuals |
|                          | Select Materials | Forms are found in the appropriate GEB manual.  
                          Also refer to MURK-1 (DB CQC), Inspector’s Daily Report |
|                          | Expanded Polystyrene Fill | Forms are found in the appropriate GEB manuals including GTP-7 and GEM-24.  
                          Also refer to MURK-1 (DB CQC), Inspector’s Daily Report |
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<th>Specification Section</th>
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<tbody>
<tr>
<td></td>
<td>Drilling and blasting operations</td>
<td>Form GE-469 (DB), Blasting Report Geotechnical Engineering Manual GEM-22 Procedures for Blasting</td>
</tr>
<tr>
<td></td>
<td>Pore water pressures</td>
<td>Form GE-264, Pore Pressure Report/Vibrating Wire Piezometer</td>
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<td>Slope movements</td>
<td>Form GE-422, Slope Indicator Data Sheet</td>
</tr>
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<td></td>
<td>204 - Controlled Low Strength Material (CLSM)</td>
<td>▪ Materials: Flow test, Cylinder breaks ▪ Placement MURK 1d (DB CQC)</td>
</tr>
<tr>
<td></td>
<td>206 - Trench, Culvert and Structure Excavation</td>
<td>▪ Safety ▪ Support and protective systems ▪ Test pits ▪ Trench and Culvert excavation ▪ Disposal of excavated Material MURK 1d (DB CQC)</td>
</tr>
<tr>
<td></td>
<td>207 - Geosynthetics</td>
<td>Brand name and type MURK-1 (DB CQC), Inspector’s Daily Report MURK 14</td>
</tr>
<tr>
<td></td>
<td>208 – Stormwater Management Facilities</td>
<td>Conformance to special specification and environmental permit requirements MURK-1 (DB CQC), Inspector’s Daily Report and forms required by regulations</td>
</tr>
<tr>
<td></td>
<td>209 - Soil Erosion and Sediment Control</td>
<td>Checks, tests, and activity relating to mulching, temporary seeding, check dams, strawbales, haybales, sediment traps, turbidity curtains, silt fences, and fence removal MURK-1 (DB CQC), Inspector’s Daily Report</td>
</tr>
<tr>
<td></td>
<td>210 - Removal and Disposal of Asbestos-Containing Material (Buildings, Bridges, and Highways)</td>
<td>▪ Compliance with regulatory standards ▪ Air quality monitoring ▪ Disposal MURK 1d (DB CQC) and forms as required by regulations</td>
</tr>
<tr>
<td>Specification Section</td>
<td>QC Inspection Requirements</td>
<td>Documentation Form(s)</td>
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| 211 - Internally Stabilized Cut Structures | ▪ Materials  
▪ Certified Mill Test Results  
▪ Certified Mix Design for grout and shotcrete  
▪ Jack and Pressure Gauge Calibration  
▪ Geotextile Approved List  
▪ Gout Cube Tests  
▪ Nail Tests  
▪ Shotcrete | Soil Nail Tendon Installation:  
GEM-21  
Grouted Tieback Installation:  
GEM-17 |
| 212 - Rock Slope Reinforcement and Catchment Systems | ▪ Materials  
▪ Certified Mill Test Results  
▪ Test Results demonstrating capability  
▪ Approved List  
▪ Grout Cube Tests  
▪ Anchor Proof Tests  
▪ Rock Bolt Tensioning  
▪ Gradation Test for Cushion Sand | MURK 1d (DB CQC), Inspector’s Daily Report |
| 302 -, Bituminous Stabilized Course | ▪ Results of stockpile sampling and testing  
▪ Bituminous materials and stabilized course  
▪ Pugmill calibration  
▪ Additional Inspection/documentation  
▪ Approved Material incorporated, including source and stockpile  
▪ Weather and time of year restrictions met  
▪ Placement and compaction | Form GE-454, Granular Material Documentation Form  
Form GEB-352b (DB), Project Inspection Report-Bituminous Stabilized Course  
Form BEB-423b (DB), Bituminous Pugmill Calibration Form  
MURK-1d (DB CQC), Inspector’s Daily Report |
| 303 – Optional Flexible Shoulder | Inspect and document the following dependant on material type:  
▪ HMA items per 402  
▪ PCC items per 502 | MURK 1d (DB CQC), Inspector’s Daily Report Per  
§402 and MP 402-2 for HMA  
MURK 3, Concrete Pavement Daily Field Inspection Report for PCC |
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| 304 - Subbase Course   | ▪ Information documented on MURK 1d  
▪ Equipment used for compaction and number of passes  
▪ Lift thickness prior to compaction  
▪ Thickness of subbase Material placed  
▪ Addition of water to subbase  
▪ Construction of stockpiles  
▪ Only Material from approved source or stockpile incorporated in Work  
▪ Results of stockpile sampling and testing, in accordance with the requirements of GCP-17 | MURK 1d (DB CQC), Inspector’s Daily Report  
GE-454M, Granular Material Documentation Form  
SM-15B, Sieve Analysis Data |
| 307 - Hydrated Lime Stabilized Subgrade | Inspect and document the following:  
▪ Equipment used  
▪ Moisture added  
▪ Preparation of foundation  
▪ Scarifying  
▪ Lime application  
▪ Mixing (primary and secondary)  
▪ Compaction, shaping, and finishing  
▪ Curing  
▪ Compliance with weather limitations  
▪ Safety and protection | MURK 1d (DB CQC), Inspector’s Daily Report |
| 308 - Soil Cement Course | Inspect and document the following:  
▪ Material source and stockpile construction  
▪ Preparation, application of cement, mixing, spreading, placement, compaction, and finishing in accordance with Project Specifications  
▪ Curing and surface treatment  
▪ Compliance with weather limitations  
▪ Stockpile sampling and testing | MURK 1d (DB CQC), Inspector’s Daily Report  
GE-454M, Granular Material Documentation Form |
# New York State Department of Transportation

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<th>Specification Section</th>
<th>QC Inspection Requirements</th>
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<tr>
<td>401 - Plant Production</td>
<td><strong>Materials</strong>&lt;br&gt;- HMA design&lt;br&gt;- Aggregates&lt;br&gt;- Aggregate source&lt;br&gt;- Mineral filler&lt;br&gt;- PG binder&lt;br&gt;- Recycled asphalt pavement&lt;br&gt;- Construction&lt;br&gt;- Determination of lots and sublots&lt;br&gt;- Mixing and holding time&lt;br&gt;- Production control&lt;br&gt;- Production quantities&lt;br&gt;- Plant and Equipment, including Inspection facilities</td>
<td>MURK 1d (DB CQC)&lt;br&gt;Form BR-162, Bituminous Materials Certified Shipment Notice&lt;br&gt;Per §401 and MP 401</td>
</tr>
<tr>
<td>402 – Hot Mix Asphalt (HMA) Pavements</td>
<td><strong>Inspect and document the following:</strong>&lt;br&gt;- Composition of mixtures&lt;br&gt;- Weather and seasonal limitations&lt;br&gt;- Type and grade of bituminous Material&lt;br&gt;- Equipment, including hauling Equipment&lt;br&gt;- Paver and Equipment cleaning&lt;br&gt;- Condition of existing surface&lt;br&gt;- Spreading and finishing&lt;br&gt;- Compaction/pavement density&lt;br&gt;- Joints&lt;br&gt;- Surface and thickness tolerances</td>
<td>MURK 1d (DB CQC), Inspector’s Daily Report&lt;br&gt;Per §402 and MP 402-2</td>
</tr>
<tr>
<td>407 - Tack Coat</td>
<td><strong>Inspect and document:</strong>&lt;br&gt;- Bituminous material&lt;br&gt;- Randomly sample and test 1 sample per 5000 gal, minimum once per project.&lt;br&gt;- Preparation of tack coat&lt;br&gt;- Time to paving (curing/breaking)&lt;br&gt;- Maintenance of traffic&lt;br&gt;- Application</td>
<td>Form BR-162c 9DB), Bituminous Material Certified Shipment Notice&lt;br&gt;Form BR-170 (DB), Bitumen or Mix Sample&lt;br&gt;MURK 1d (DB CQC), Inspector’s Daily Report</td>
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<td>Specification Section</td>
<td>QC Inspection Requirements</td>
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| 410 - Bituminous Surface Treatment - Single Course | Inspect and document:  
  - Bituminous material  
  - Aggregate compatibility with bitumen  
  - Compliance with weather and seasonal limitations  
  - Surface preparation  
  - Application  
  - Bitumen  
  - Cover aggregate  
  - Cleanup | Form BR-162c 9DB), Bituminous Material Certified Shipment Notice  
Form BR-170 (DB), Bitumen or Mix Sample MURK 1d (DB CQC), Inspector’s Daily Report |
| 490 - Cold Milling | Inspect and Document:  
  - Controls  
  - Equipment  
  - Cleaning  
  - Milling | MURK 1d (DB CQC), Inspector’s Daily Report |
| 501 - Portland Cement Concrete - General | Inspect and document:  
  - Plant  
  - Materials  
  - For Structural Concrete, information required on MURK 5d (DB CQC) | BR 316a, Daily Concrete Batch Plant Report (on-and off-site plants) with Materials Acceptance Records  
Plant Inspector’s Diary  
Copy of mix design or Form BR-329, Concrete Mix Design Sheet  
Cement shipment certifications or cement shipment authorization and cement sample logs  
BR 342, Materials certification (certified batches only)  
Delivery tickets  
MURK 5d (DB CQC), Design-Builder’s Structural Concrete Inspector’s Daily Report |
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<th>Specification Section</th>
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| 502 - Portland Cement Concrete Pavement | Inspect and document information required on specified form, including:  
- High & low ambient temperature during placement  
- Mixer type  
- Slump  
- Air content  
- Concrete specifications  
- BR 316 Report number  
- Concrete Mixing, Transporting & Discharging checks five (5) times each production day:  
  - Central Mix – Time, End of discharge  
  - Truck mix – time, begin and end of mixing, end of discharge and mixing revolutions  
  - Transit Mix – Time, begin and end of discharge and mixing revolutions  
- Thickness Tolerance  
- Compliance with weather and seasonal limitations  
- Equipment  
- Forms  
- Preparation of subbase  
- Placing and spreading concrete  
- Finishing and texturing  
- Joints  
- Curing  
- Removing Forms (fixed form paving)  
- Protection of pavement  
- Surface test  
- Sealing joints | MURK 3, Concrete Pavement Daily Field Inspection Report |
| 503 - Portland Cement Concrete Foundation for Pavement | Inspect and Document:  
- Materials – See 501  
- Surface tolerance  
- Texturing  
- Curing | MURK 3, Concrete Pavement Daily Field Inspection Report |
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<tr>
<td><strong>551 - Piles and Pile Driving Equipment</strong></td>
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<tr>
<td>▪ Inspect equipment and prepare Form BD 138M, Pile and Pile Driving Equipment Data</td>
<td>Form BD 138M, Pile and Pile Driving Equipment Data</td>
<td>MURK 1d (DB CQC), Inspector’s Daily Report</td>
</tr>
<tr>
<td>▪ Pile material deliveries</td>
<td></td>
<td>Form BD-25M, Pile Driving Record</td>
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<tr>
<td>▪ Complete Pile Driving Record</td>
<td></td>
<td>Form BD-26M, Pile Driving Record Daily Summary</td>
</tr>
<tr>
<td>▪ Inspect and document:</td>
<td></td>
<td>MURK 1d (DB CQC), Inspector’s Daily Report</td>
</tr>
<tr>
<td>▪ Storage and handling of piles</td>
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<td>▪ Preparation of piles</td>
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<td>▪ Shoes</td>
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<td>▪ Splines</td>
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<td>▪ Driving method(s)</td>
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<td>▪ Length of piles</td>
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<td>▪ Variation in pile alignment</td>
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<td>▪ Cutting off piles and pile casings</td>
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<td>▪ Painting exposed piles</td>
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<td>▪ Reject defective piles and document reason and disposition</td>
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<td><strong>Drilled Shafts</strong></td>
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<tr>
<td>▪ Drilling</td>
<td>Drilled Shafts:</td>
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### 552 – Externally Stabilized Cut Structures
- Materials
- Safety
- Permanent Sheeting
- Temporary sheeting
- Interim sheeting
- Excavation protective systems

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### 553 – Cofferdams and Waterway Diversion Structures
- Materials
- Cofferdams
- Structure
- Dewatering Equipment
- Sediment removal areas
- Temporary water diversion structure
- Removal

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### 554 – Fill Type Retaining Walls
- Materials
- Construction
- Placement area
- Facing units
- Structure erection
- Methods & Equipment
- Leveling pad
- Backfill
- Reinforcing

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| 557 – Superstructure Slabs, Sidewalks on Bridges, and Structural Approach Slabs | Inspect and document:  
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| 558 - Longitudinal Sawcut Grooving of Structural Slab Surface | Inspect and document:  
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| 579 - Structural Slab Reconstruction Preparation | ▪ Materials  
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| 611 – Planting, Transplanting and Post-Planting Care | ▪ Materials  
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Kosciuszko Bridge Project – Phase 1
(BIN 1075699)

PIN X731.24, Contract D900011

CONTRACT DOCUMENTS
PART 2

DB SECTION 112
CONSTRUCTION QUALITY CONTROL AND QUALITY ASSURANCE

DB APPENDIX 112C - ATTACHMENT 1

SCHEDULE OF CONSTRUCTION QUALITY ASSURANCE AND
VERIFICATION INSPECTION

Addendum 6 - November 8, 2013
This page is intentionally left blank.
The Design Builder (DB) shall use the following Appendix to aid in development of a Quality Plan as defined in Section 113. The Department will progress QA for materials acceptance to verify that the Design and Construction QC Plan is controlling DB operations in conformance with Department standards. Information in this appendix describes the expected testing procedures and frequencies to assure product and process quality, and verification of the DB QC Plan.

Quality Assurance on the Design Builder’s QC process may be progressed according to values defined in the “QA Actions and Frequencies” column of the following table. The Risk Factor for various items will determine the frequency at which the Department will conduct quality assurance / verification sampling and testing. Statistical methods may be considered for use by the Department to evaluate the effectiveness of sampling and testing results from QC for use as acceptance. The QA Actions and Frequencies column defines those actions and the frequency thereof that the Department expects to minimally take to provide quality assurance of materials and construction inspection activities. Final determination of these actions and frequencies will be developed specific to the QC plan provided by the DB.

The level of effort of verification by the Department both for materials and construction practices is dependent on risk. The Design Builder assumes most of the risk and progresses work accordingly. This risk is managed by providing appropriate QC to limit failures of materials or non-conformance to acceptable construction procedures. Therefore, the Department’s role is to verify materials acceptability and testing results, assure compliance with construction procedure requirements, and perform IAST to assure testing is performed correctly.

The Department’s QA considers the material application and construction procedures to determine the overall risk associated with using a particular material or process. The risk is then defined as one of 3 Risk Factor levels, each addressing the expected QA needs. Detailed description of each Risk Factor level is defined in the table below and specific details for each item’s QA practices are provided. The 3 Risk Factor levels are described in general below.

Risk Factor 1 (RF-1)

RF-1 provides continuous analysis using statistically based (F & t-testing) for those categories of materials and associated test methods that are strong indicators of long-term performance. These are typically considered high-risk, high-volume type materials incorporated into a Design Build project. Examples include compressive strength for hydraulic or Portland Cement Concrete, percent soil compaction for embankment, and percent asphalt content for Hot Mix Asphalt Concrete. The Design Builders’ QC testing frequency is in compliance with various Department documents and the Departments Verification sampling and testing frequencies should be a minimum of 25% of the QC testing frequency. Acceptance is based upon both validation of statistical analysis of complimentary QC test data population and QA verification test data populations and both test results meeting acceptable material acceptance limits as defined in the contract documents.

- Repeat failing test results should trigger a higher frequency of Verification testing and for those materials/test methods that have demonstrated high levels of repeated successful validation/specification compliance should be considered for reduced frequency of inspection not to go below 10% of QC testing frequency.
- When smaller quantities of high risk type materials are used, consideration for random sampling and test, independent from Design-Builder sampling and testing, may be appropriate at 25% of...
the QC testing frequency. Statistical comparison and/or validation methods may not be appropriate in these situations.

Risk Factor 2 (RF-2)

In addition to checking that all QC test results are within specification limits, RF-2 verification provides independent verification of those materials and associated test methods that are secondary indicators of material performance. Verification testing, in the form of independent verification sampling or split sampling with the QC test, that the test results fall within specification limits is typically appropriate. These materials/material tests are considered a reduced risk from RF-1. An example is the slump test for concrete. Approved list products that require more than manufacturer’s certification of compliance to assure quality are covered under this level of verification. The QA verification sampling and testing frequency should be a minimum of 10% of QC testing frequency. Acceptance is based upon verification test method results meeting the specification limits. No statistical validation is required.

Risk Factor 3 (RF-3)

RF-3 provides observation verification for those materials that only require very few QA tests for compliance with various Department documents or where materials are accepted based on the inclusion in the Departments Approved List of materials. For these materials, risk of failure does not affect the long-term performance of the facility produced approved products are used. The Design Builder is should still perform QC testing as required. Under RF-3 approach, the Department oversight does not perform any tests but observes any QC test performance for equipment and procedural compliance for a product, and/or perform an audit of project procurement records to verify compliance with Departments Approved List, Certification of Compliance on record, Buy America, etc. The frequency of this testing is a minimum of once per calendar year per test method and/or product, or random frequency as determined by the Departments Project Manager.

Some domestic off-site materials sampling and testing for QA operations may be performed by the Department as indicated elsewhere in the RFP. When Department QA is used for acceptance / rejection of materials, the Risk Factors are not applicable since no Design-Builders data is used for acceptance. The Design-Builder may perform QC as deemed appropriate or desired at off site locations and should include any such oversight in the QC Plan. If Design-Builder sampling and testing is desired for acceptance, this should be outlined in the QC Plan and Risk Factors will apply.

Use of materials for which there is not an Approved List category will require, in the Design Build Quality Plan, those tests and evaluations to prove the durability of unique materials before use in the project. In many cases, physical testing should be performed by an independent laboratory. A planned frequency of sampling and testing, commensurate with the level of risk of the product proposed for use, must be provided in the DB Quality Plan for acceptance by the Project Manager.

Department QA of Construction Inspection operations will typically consist of verifying the CQCM is performing and assuring all construction operations adhere to Department Specifications and Standards and/or the DB Quality Plan. The Department shall have the authority to perform sufficient inspections and/or tests of the DBs work to verify that the inspections and/or tests performed by the CQCM are in compliance with the contract, the design and specifications, the contractor’s approved Quality Plan,
well as the Department’s standards and practices. The frequency of construction inspection will depend on the critical nature of the construction operation.

Certain critical items of work will require witness or hold points to assure acceptability and/or verification testing prior to progression of work. The DB should include in the QC Plan specific hold points as desired by the DB or as required by the Department.

Witness and Hold Points shall be established where notification of the Department and/or Design-Builder’s design team (for elements of a project that require design team members certification prior to continuation of Work), where applicable, is required for observing or visually examining a specific work operation or test. Witness Points are points identified within the Construction QC Plan which require notification of the Department and/or design team, where applicable. Work may proceed beyond a Witness Point with or without participation by the Department provided proper notification has been given. However, work shall not proceed until certification from the required design team member is obtained. Hold Points are mandatory verification points identified within the Construction QC Plan beyond which work cannot proceed until mandatory verification is performed. Witness and Hold Points shall be identified in the Construction QC Plan where critical characteristics are to be measured and maintained, and at points where it is nearly impossible to determine the adequacy of either materials or workmanship once work proceeds past this point.

The CQAM shall designate a primary point of contact for notifications for inspection at Hold Points and Witness Points. An alternate individual may be designated to function in this capacity in his/her absence. For Witness and Hold points where the Department’s involvement is required, the Department’s CQAM will be designated to handle responses to the Concessionaire/Design-Builder with written reports or releases. The time necessary to respond to the notification for inspection at Witness and Hold Points shall be stated in the Construction QC Plan, mutually agreed to by both the Design-Builder and the Department.

The Department will have access to all activities and records of the DB, CQCM, and materials testing firm/laboratory retained by the DB for the purpose of assuring that the construction and inspection activities are being conducted in compliance with the contract, the design and specifications, the DB’s approved Quality Plan, as well as the Department’s standards and practices.

All QA activities of the Department will provide assurance that materials and methods are such that, when final acceptance of the project is requested, the Department is confident that all materials and work conforms to plans, specifications, and standards. These verifications will document the acceptance of the work for payment purposes and assure all non-conformances have been satisfactorily addressed.

The Department shall have the authority to stop work specific to Work Zone Traffic Control non-conformance issues that impact safety of the traveling public. The DB shall ensure the overall safety for the workers, the inspection staff and the public at all times.

Nothing in the scope of the Department’s QA role shall be construed to relieve the DB contractor and their CI and QC firms of their responsibilities for full time construction inspection and compliance with the contract, the design and specifications, the contractor’s approved Quality Plan, as well as the Department’s standards and practices.
New York State Department of Transportation

Tolerances for Statistical and Comparison evaluations shall be per the below tables to be deemed valid or acceptable. Any discrepancies shall be handled according to the DB 112, Quality Assurance Plan Program Guide, Section 5.

The level of significance ($\alpha$) used for statistical analysis will be as provided below unless otherwise approved by the Department.

<table>
<thead>
<tr>
<th>Material</th>
<th>Level-Of Significance ($\alpha$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Earthwork: compaction</td>
<td>0.01</td>
</tr>
<tr>
<td>Concrete, structural: air content, 28 day compressive strength</td>
<td>0.025</td>
</tr>
<tr>
<td>Concrete, non structural: 28 day compressive strength</td>
<td>0.01</td>
</tr>
<tr>
<td>Hot Mix Asphalt items</td>
<td>Per existing QC/QA program</td>
</tr>
<tr>
<td>Other materials (TBD)</td>
<td>0.01</td>
</tr>
</tbody>
</table>

Comparison tolerance for testing shall be:

### Split Sample Comparison Tolerances

<table>
<thead>
<tr>
<th>Test</th>
<th>Comparison Tolerance</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soil/ Aggregate Wet Density using Nuclear gauge in Direct Transmission</td>
<td>Soil – 2.1 pcf Subbase – 3.0 pcf Aggregate Base – 3.0 pcf</td>
<td>Values adjusted from AASHTO T-310</td>
</tr>
<tr>
<td>Soil/Aggregate Density using Sand Cone</td>
<td>2.0 pcf</td>
<td>Values adjusted from ASTM D1556</td>
</tr>
<tr>
<td>Soil/Aggregate Moisture using Nuclear gauge (backscatter)</td>
<td>Soil – 2.1 pcf Subbase – 3.0 pcf</td>
<td>Values adjusted from AASHTO T-310</td>
</tr>
<tr>
<td>Soil/Aggregate Moisture determined by oven dry</td>
<td>14% difference*</td>
<td>ASTM D2216</td>
</tr>
<tr>
<td>One Point Proctor – density Lab Proctor – density</td>
<td>4.5 pcf 4.5 pcf</td>
<td>AASHTO T-99</td>
</tr>
<tr>
<td>One Point Proctor - moisture</td>
<td>15% difference*</td>
<td>AASHTO T-99</td>
</tr>
<tr>
<td>Concrete Air</td>
<td>+/- 1%</td>
<td>ASTM C231 ASTM C173</td>
</tr>
<tr>
<td>Concrete Strength</td>
<td>15 % difference on the average of 2 cylinders</td>
<td>Values adjusted from ASTM C39</td>
</tr>
<tr>
<td>Asphalt Bulk Specific Gravity Identical plug/core Plug/core –split sample (close proximity)</td>
<td>Less than 0.015 Less than 0.030</td>
<td>Values adjusted from AASHTO T-166</td>
</tr>
</tbody>
</table>

Percent difference calculation shall be \( \% \text{ diff} \leq \left( \frac{\text{absolute value}[W_1-W_2]}{(1/2) \times (W_1+W_2)} \right) \times 100 \)
<table>
<thead>
<tr>
<th>Specification Section</th>
<th>Risk Factor, applications, and hold points</th>
<th>Quality Assurance Actions and Testing</th>
</tr>
</thead>
<tbody>
<tr>
<td>All - General</td>
<td>- RF as described per item.</td>
<td>Materials QA: as described per item.</td>
</tr>
<tr>
<td></td>
<td>- RF does not apply when DOT performs materials sampling and testing for acceptance purposes at off-site locations.</td>
<td>CI QA: as described per item.</td>
</tr>
<tr>
<td>201 – Clearing and Grubbing</td>
<td>- RF-3 – all work</td>
<td>Materials QA: N/A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CI QA: random verification of QC records for work documented as progressed, verify adherence to work limits, and compliance with planned / required protection / restoration.</td>
</tr>
<tr>
<td>202 – Removal of Structures and Obstructions</td>
<td>- RF-3 – all work</td>
<td>Materials QA: N/A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CI QA: random verification of QC records for work progressed, adherence to safety requirements, and adherence to WZTC per 619 requirements as appropriate.</td>
</tr>
<tr>
<td>203 – Excavation and Embankment</td>
<td>- Select Material- RF-2</td>
<td>Materials QA: Verify initial source of proposed material and that GEB Manual requirements are being met. Random verification of subsequent sources. Observe sampling of initial stockpile and 10% of subsequent stockpiles. Sample and test material as defined in specifications and GCP-17 at a frequency of 10% of that required by QC plan. Statistical analysis not required for gradation testing.</td>
</tr>
<tr>
<td></td>
<td>- Embankment Material where structural elements will be constructed- RF-2</td>
<td>CI QA: Perform side by side compaction testing at 10% of tests required by QC plan.</td>
</tr>
<tr>
<td></td>
<td>- Embankment Material all other areas- RF-3</td>
<td>Random visual observation of construction operations for compliance with specifications.</td>
</tr>
<tr>
<td></td>
<td>- Unclassified excavation- RF-3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Hold point for stockpile evaluation where required</td>
<td></td>
</tr>
<tr>
<td>Specification Section</td>
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</tr>
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<td>------------------------</td>
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<td>--------------------------------------</td>
</tr>
<tr>
<td>• Expanded Polystyrene Fill: RF-2</td>
<td></td>
<td>Material QA: Random review of material certification and third party test results for specification compliance. CI QA: Sample and test for specification compliance 10% of the blocks required for testing by the QC plan per GTP-7. Random visual observation of construction for compliance with specifications.</td>
</tr>
</tbody>
</table>
| • Drilling and blasting operations- RF-3  
• Hold point to review blasting plan prior to start of any work. | | Materials QA: N/A CI QA: Participate in the pre-blast meeting. Verify that the QC consultant completed all the steps needed for blasting, including reviewing the blast plan, and conducting the pre-blast meeting. Refer to GEM-22 for guidance. |
| • Settlement measurement- RF-3  
• Measurements taken of actively moving landslides or structures. Hold point for implementation of solution. Measurements taken for fills/structures undergoing waiting periods. Witness point for removal of surcharge/termination of waiting period.  
• Routine monitoring. | | Materials QA: Check the documentation required by specification and the QC plan to verify that the proposed equipment has been calibrated as required. CI QA: Observe the first installation of each type of monitoring device, and 25% of any subsequent installations. Take side by side readings at 10% of those taken by DB. See GCP-15 |
| • Pore water pressures- RF-3  
• Measurements taken of actively moving landslides or structures | | Materials QA: Check the documentation required by specification and the QC plan to verify that the proposed equipment has been calibrated as required. CI QA: Observe the first installation of each type of monitoring device, and 25% of any subsequent installations. Take side by side readings at 10% of those taken by DB. See GEB Manual requirements |
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<tr>
<td></td>
<td>▪ Slope movements- RF-3</td>
<td>Materials QA: Check the documentation required by specification and the QC plan to verify that the proposed equipment has been calibrated as required.</td>
</tr>
<tr>
<td></td>
<td>▪ Measurements taken of actively moving landslides or structures. Hold point for implementation of solution.</td>
<td>CI QA: Observe the first installation of each type of monitoring device, and 25% of any subsequent installations. Take side by side readings at 10% of those taken by DB. See GEB Manual requirements</td>
</tr>
<tr>
<td>204, Controlled Low Strength Material (CLSM)</td>
<td>▪ RF-2 – all load bearing applications ▪ RF-3 – non-load bearing applications (i.e. filling an empty vault).</td>
<td>Materials QA: Review each mix design to verify compliance with the specification and use of approved materials.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CI QA: Observe flow tests for 10% of the flow tests required by QC plan following ASTM D6103. Observe placement operations for 10% of the volume placed. Perform cylinder breaks on 10% of the number required in the QC plan for load bearing applications only, using cylinders cast per MM9.2 and meeting requirements of 733-01.</td>
</tr>
<tr>
<td>206 - Trench, Culvert and Structure Excavation</td>
<td>▪ RF-3 ▪ Witness point to verify sheeting or lag wall design.</td>
<td>Materials QA: N/A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CI QA: Check the design completed for temporary sheeting or lag wall to verify that the method and parameters are appropriate. Backfill to meet QA requirements for Section 203.</td>
</tr>
<tr>
<td>207, Geotextile</td>
<td>RF-3</td>
<td>Materials QA: Verify that material is on Approved List, for each material to be used.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CI QA: Verify that the QC inspector check that the material used on the project is the same as that shown to be used on the plans. Random observation for specification compliance.</td>
</tr>
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</tbody>
</table>
| 208 – Stormwater       | RF-2
  Management Facilities  
  ▪ Witness point for laboratory testing when required. | Materials QA: Check documentation required by specifications and environmental permits to verify compliance. Certified copies of laboratory test results supplied by DB CI QA: Verification of materials acceptability. Observe the first installation of each type of facility, and 20% of any subsequent installations. For precast verify that QC review of drawings performed properly and certifications provided. Assure field testing performed per specification. |
| 209, Soil Erosion and  | RF-3
  Sediment Control  
  ▪ Hold point for compliance with environmental permit requirements | Materials QA: Verify products on Approved List or materials meet the appropriate 700 requirements and that certifications are provided when required. Verify compliance with environmental permit requirements. CI QA: Perform random check of 10% of the areas that have been inspected to determine they meet the criteria called for in the specifications |
| 210 - Removal and      | RF-3
  Disposal of Asbestos- 
  Containing Material  
  (Buildings, Bridges, 
  and Highways)  
  ▪ Witness point for safety of operation, verify license | Materials QA: N/A CI QA: Verify asbestos handling license. Review daily logs provided per 210-3. Review certification for disposal. |
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| 211 - Internally Stabilized Cut Structures | ▪ RF-1 for permanent walls  
▪ RF-2 for temporary walls | Materials QA: Review material documentation. Verify strength of grout and shotcrete for various designs.  
CI QA: Observe 25% (10% for RF-2) of the soil nail/grouted tieback testing required in the QC plan. See GEM-21 and GEM-17. Perform grout cube testing on 25% (10% for RF-2) of testing required in QC plan per 701-19E. Perform shotcrete testing on 25% (10% for RF-2) of testing required in QC plan per 583. |
| 212 - Rock Slope Reinforcement and Catchment Systems | ▪ RF-2  
▪ Witness point of proof load testing | Materials QA: Review material documentation.  
CI QA: Observe 10% of the anchor proof tests/rock bolt tensioning required in the QC plan per GEB Manual requirements. Perform grout cube testing on 10% of testing required in QC plan per 701-19E. |
| 302 - Bituminous Stabilized Course | ▪ RF-3 | Materials QA: Verify proposed materials meet specification requirements.  
CI QA: Random observation for specification compliance. |
| 303 – Optional Flexible Shoulder | ▪ RF-3 | Materials QA: Verify proposed materials meet specification requirements.  
CI QA: Random observation for specification compliance. |
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</table>
| 304 - Subbase Course   | ▪ RF-2 – all subbase for permanent roadway facilities  
                        ▪ RF-2 – subbase for permanent parking lots, sidewalks, bike and pedestrian trails | Materials QA: Verify initial source of proposed material and that GCP-17 requirements are met. Random verification of subsequent sources.  
CI QA: Observe stockpile sampling procedures for the first stockpile, and for 25% (10% for RF-2) of the subsequent stockpiles. Perform stockpile sampling and testing per the specification on the first and on 25% (10% for RF-2) of the subsequent stockpiles. Statistical Analysis not required for gradation testing. Visually inspect 25% (10% for RF-2) of the stockpiles. Random observation for specification compliance. |
| 307 - Hydrated Lime Stabilized Subgrade | ▪ RF-3 | Materials QA: Verify materials are on the Approved List and manufacturer certifications received / on file as appropriate.  
CI QA: Random observation for specification compliance of proper depth of mixing, mixing operations, and compaction. |
| 308 - Soil Cement Course | ▪ RF-3 | Materials QA: Verify materials are on the Approved List and manufacturer certifications received / on file as appropriate.  
CI QA: Random observation for specification compliance of proper depth of mixing, mixing operations, and compaction. |
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</tr>
</thead>
<tbody>
<tr>
<td>401, Plant Production</td>
<td>▪ RF-2 when DB is responsible for plant operations ▪ DOT anticipates having staff in HMA plants and providing materials inspection during production. If the DB will provide plant responsibility equal to or greater than DOT QC/QA procedures, it shall be defined in the QC plan and QA will be modified accordingly.</td>
<td>Materials QA: Maintain current QC/QA practices per 401 and MP 401 except for incentive payments. CI QA: See appropriate specification item</td>
</tr>
<tr>
<td>402 – Hot Mix Asphalt (HMA) Pavements</td>
<td>▪ RF-2</td>
<td>Materials QA: See 401, Plant Production. CI QA: Observation and document review per 402 and MP 402. For each days placement cores are taken, one core and the plant QA mixture maximum theoretical density will be used for verification. 50 Series placements accepted per MP 98-01.</td>
</tr>
<tr>
<td>407 - Tack Coat</td>
<td>▪ RF-2</td>
<td>Materials QA: Verify suppliers for emulsions on Approved List and certification received / on file. Sample and lab testing per 702. CI QA: observation, documentation review and random checks to verify quantity and ensure requirements are being followed and met. Observe calibration of bituminous spray equipment</td>
</tr>
<tr>
<td>Specification Section</td>
<td>Risk Factor, applications, and hold points</td>
<td>Quality Assurance Actions and Testing</td>
</tr>
<tr>
<td>------------------------</td>
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<td>--------------------------------------</td>
</tr>
<tr>
<td>410 - Bituminous Surface Treatment - Single Course</td>
<td>▪ RF-2</td>
<td>Materials QA: Verify suppliers for aggregate and emulsions on Approved List and certification received / on file. Sample and lab testing per 702 of emulsion, aggregate sampling and testing per 410. CI QA: observation, documentation review and random checks to verify quantity and ensure requirements are being followed and met. Observe calibration of bituminous distributor and aggregate spreader equipment.</td>
</tr>
<tr>
<td>490 - Cold Milling</td>
<td>▪ RF-3</td>
<td>Materials QA: Not applicable CI QA: Verify removal limits are being properly met.</td>
</tr>
<tr>
<td>501 - Portland Cement Concrete - General</td>
<td>▪ RF-2 when DB is responsible for plant operations ▪ RF does not apply when DOT performs materials sampling and testing for acceptance purposes.</td>
<td>Materials QA: Inspection per MM9.1. For quantities less than 50 cy, materials acceptance may be via certification. For projects producing large quantities for a given placement or where there is a project specific batch plant, the DB may be required to perform plant sampling and testing. Such sampling and testing may be used for acceptance purposes following RF-2, per MM 9.1, verified quarterly by IAST testing. DOT to perform testing per MM 9.1 at 10% frequency to verify fine aggregate gradation of minus 200 material and moisture content for production. Additional testing may be required dependant upon Design-Builders QC plan requirements and any special testing outlined to assure durability (i.e. corrosion protection, permeability, f/t, scaling, etc...) CI QA: NA</td>
</tr>
<tr>
<td>Specification Section</td>
<td>Risk Factor, applications, and hold points</td>
<td>Quality Assurance Actions and Testing</td>
</tr>
<tr>
<td>------------------------</td>
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<td>-------------------------------------</td>
</tr>
</tbody>
</table>
| 502 - Portland Cement Concrete Pavement | ▪ For cumulative project quantities over 1000 CY.  
▪ RF-1 for entrained air content  
▪ RF-2 for temperature and unit weight  
▪ For cumulative project quantities 1000 CY or less.  
▪ RF-2 for entrained air content, slump, temperature and unit weight | Materials QA: Plant inspection per requirements of 501 for concrete production.  
CI QA: Observe DB concrete sampling and testing of concrete for entrained air content, temperature and unit weight at frequencies per MM9.2. Department to perform air content and unit weight testing, frequency dependant on volume used on the project. |
| 503 - Portland Cement Concrete Foundation for Pavement | ▪ For cumulative project quantities over 1000 CY.  
▪ RF-1 for entrained air content  
▪ RF-2 for temperature and unit weight  
▪ For cumulative project quantities 1000 CY or less.  
▪ RF-2 for entrained air content, slump, temperature and unit weight | Materials QA: Plant inspection per requirements of 501 for concrete production.  
CI QA: Observe DB concrete sampling and testing of concrete for entrained air content, temperature and unit weight at frequencies per MM9.2. Department to perform air content and unit weight testing, frequency dependant on volume used on the project. |
| 551 - Piles and Pile Driving Equipment | ▪ RF-1 for concrete  
▪ RF-2 for all other materials / operations | Materials QA: Review material documentation, verify compliance per 551 requirements. Plant inspection per requirements of 501 for concrete production. Perform 28 day compressive strength per MM9.2, per concrete mixture for 25% of QC frequency.  
CI QA: Review construction practices per GEM-26 or as defined in Design-builders QC plan. Review pile plumbness on 25% of the number required in the QC plan. Review 25% of the pile driving logs. Observe 25% of the load testing required in the QC plan per GCP-18. |
<table>
<thead>
<tr>
<th>Specification Section</th>
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<th>Quality Assurance Actions and Testing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drilled Shafts</td>
<td>▪ RF-1 for concrete &lt;br&gt;▪ RF-2 for all other materials / operations</td>
<td>Materials QA: Review material documentation. Plant inspection per requirements of 501 for concrete production. Verification for 28 day compressive strength per MM9.2, per concrete mixture. &lt;br&gt;CI QA: Review construction practices per GEM-18 or as defined in Design-builders QC plan. Review pile plumbness on 25% of the number required in the QC plan. Review 25% of the pile driving logs. Observe 25% of the load testing required in the QC plan per GCP-18.</td>
</tr>
<tr>
<td>Micropiles</td>
<td>▪ RF-1 for concrete and grout &lt;br&gt;▪ RF-2 for all other materials / operations</td>
<td>Materials QA: Review material documentation. Plant inspection per requirements of 501 for concrete or grout production. Grout testing per 701-19E for 10% of placements, testing for grout setting time, expansion/contraction, compressive strength, bleed water, fluidity, chloride and sulfate content and permeability. &lt;br&gt;CI QA: Verify construction practices and Design-Builders QC per GEM-25 or as defined in Design-Builders QC plan. Review grouting pressure on 25% of the number required in the QA plan. Observe 25% of the load testing required in the QA plan per GCP-18.</td>
</tr>
<tr>
<td>552 – Externally Stabilized Cut Structures</td>
<td>▪ RF-2 &lt;br&gt;▪ Hold point for design review</td>
<td>Materials QA: Review material documentation prior to use. Plant inspection per requirements of 501 for concrete production. Perform 28 day compressive strength per MM9.2, per concrete mixture at 10% of QC frequency. &lt;br&gt;CI QA: Review structural and geotechnical design. See GDP-11</td>
</tr>
<tr>
<td>553 – Cofferdams and Waterway Diversion Structures</td>
<td>▪ RF-3 &lt;br&gt;▪ Hold point for design review</td>
<td>Materials QA: Verify material requirements of 553-2 &lt;br&gt;CI QA: Verify review of submittal documents by QC.</td>
</tr>
<tr>
<td>Specification Section</td>
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</tr>
<tr>
<td>554 – Fill Type Retaining Walls</td>
<td>RF- 2</td>
<td>Materials QA: Verify that wall units are from the Approved List. Perform materials testing per the specification on the first stockpile and on 10% of the subsequent stockpiles. Statistical analysis not required for gradation testing. Backfill sampling per GCP-20. CI QA: Observe random sampling on backfill from behind the wall, on 10% of the random samples taken. Perform random sampling and testing on material from behind the wall on 10% of the required samples. Statistical analysis not required for gradation testing. Perform compaction testing at 10% of frequency required by QC plan. See inspection requirements of GEM-16.</td>
</tr>
</tbody>
</table>
### Specification Section | Risk Factor, applications, and hold points | Quality Assurance Actions and Testing
---|---|---
555, Structural Concrete | ▪ For cumulative project quantities over 1000 CY  
  o RF-1 for air content and strength  
  o RF-2 for slump, unit weight and temperature  
  ▪ For cumulative project quantities 1000 CY or less  
  o RF-2 for strength, air content, slump, unit weight and temperature  
  o RF-3 for various appurtenances and raw materials. Witness points for all structural applications prior to concrete placement, to verify cover, rebar quantity and spacing, and verify proper placement of appurtenances as necessary.  
  ▪ Hold point for concrete placement until materials certifications received. | Materials QA: Plant inspection per requirements of 501 for concrete production. Rebar acceptance per 556. Miscellaneous materials conformance per various 700 section requirements. Perform plastic air content and 28 day compressive strength, slump, unit weight, and temperature per MM9.2, per concrete mixture at frequency dependant on volume used on the project as follows:  
  ▪ For cumulative project quantities over 1000 CY:  
    o RF-1: 25% of QC testing frequency  
    o RF-2: 10% of QC testing frequency  
  ▪ For cumulative project quantities 1000 CY or less:  
    o RF-2: 10% of QC testing frequency  
CI QA: Observe QC Inspection progressing per standard specifications or QC Plan. Observe DB concrete sampling and testing of concrete for air and slump at frequencies per MM9.2. Review materials certifications for various supplied items. Observe QC checks performed such that design is met for characteristics such as thickness, reinforcing spacing, cover, and grade. Verify acceptable curing materials on hand prior to placement.  
  Additional testing may be required dependant upon Design-Builders QC plan requirements and any special testing outlined to assure durability (i.e. corrosion protection, permeability, f/t, scaling, etc...)
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</table>
| 556, Reinforcing Steel for Concrete Structures | ▪ RF-2 for Stainless Steel products  
▪ RF-3 for all other reinforcing materials                                                                         | Materials QA: Verify all manufacturers on Approved List and/or material certification received / on file per the following:  
▪ Black bar: mill must appear on Approved List.  
▪ Epoxy Bar: mill, fabricator, and powder must all appear on Approved Lists.  
▪ Galvanized Bar: Approved list for mill, certification for the galvanizing.  
▪ Stainless Steel Bar reinforcement per 709-13 and Stainless Clad bar Reinforcement per Special Specification: Acceptance testing per each bar size and heat for tensile strength, chemistry, nominal weight, and deformation height.  
CI QA: Verify proper handling of reinforcing per specification 556                                                                                               |
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| 557 – Superstructure Slabs, Sidewalks on Bridges, and Structural Approach Slabs | ▪ For cumulative project quantities over 1000 CY:  
  o RF-1 for air content and strength  
  o RF-2 for slump, unit weight and temperature  
  ▪ For cumulative project quantities 1000 CY or less:  
  o RF-2 for strength, air content, slump, unit weight and temperature  
  o RF-3 for various appurtenances and raw materials. Witness points for all structural applications prior to concrete placement, to verify cover, rebar quantity and spacing, and verify proper placement of appurtenances as necessary.  
  ▪ Hold point for concrete placement until materials certifications received. | Materials QA: Plant inspection per requirements of 501 for concrete production. Rebar acceptance per 556. Miscellaneous materials conformance per various 700 section requirements. Perform plastic air content and 28 day compressive strength, slump, unit weight, and temperature per MM9.2, per concrete mixture at frequency dependant on volume used on the project as follows:  
  ▪ For cumulative project quantities over 1000 CY:  
  o RF-1: 25% of QC testing frequency  
  o RF-2: 10% of QC testing frequency  
  ▪ For cumulative project quantities 1000 CY or less:  
  o RF-2: 10% of QC testing frequency  
  CI QA: Observe QC Inspection progressing per standard specifications or QC Plan. Observe DB concrete sampling and testing of concrete for air and slump at frequencies per MM9.2. Review materials certifications for various supplied items. Observe QC checks performed such that design is met for characteristics such as thickness, reinforcing spacing, cover, and grade. Verify acceptable curing materials on hand prior to placement.  
  Additional testing may be required dependant upon Design-Builders QC plan requirements and any special testing outlined to assure durability (i.e. corrosion protection, permeability, f/t, scaling, etc…). |
| 558 - Longitudinal Sawcut Grooving of Structural Slab Surface | ▪ RF-3 | Materials QA: N/A  
  CI QA: Verify grooving dimensions per specification for each day of work. Measure groove spacing. |
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<tr>
<td>560 - Masonry</td>
<td>▪ RF-3</td>
<td>Materials QA: plant QC/QA program per Materials Procedure 09-03 for block items. Verify masonry cement type is correct, and approved</td>
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<td>CI QA: Random verification of adherence to all specification construction requirements. Verify dovetail anchor locations / spacing for every 1000 sf wall placed.</td>
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<td>563 – Prestressed Concrete Units (Structural)</td>
<td>▪ RF-2 when DB is responsible for plant operations.  ▪ RF does not apply when DOT performs materials sampling and testing for acceptance purposes at off-site fabrication sites.</td>
<td>Materials QA: Precast production off-site per the PCCM. The Design-Builder will progress any necessary shop drawings and perform QC and QA as defined in the PCCM. The Department will perform the requirements of the PCCM at 25% of the defined QA requirements to verify conformance with specifications.</td>
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<td>CI QA: Verify erection per PCCM.</td>
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<tr>
<td>564, Structural Steel</td>
<td>▪ RF-2 when DB is responsible for plant operations.  ▪ RF does not apply when DOT performs materials sampling and testing for acceptance purposes at off-site fabrication sites.</td>
<td>Materials QA: Steel fabrication off-site per the SCM. The Design-Builder will progress any necessary shop drawings and perform QC and QA as defined in the SCM. The Department will perform the requirements of the SCM at 25% of the defined QA requirements to verify conformance with specifications. Other materials conformance per various 700 section requirements.</td>
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<td>CI QA: Verify erection per SCM. Observe field repairs to paint damaged during erection performed according to Section 572.</td>
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| 565, Bridge Bearings  | ▪ RF-2 for projects where Design Builder performs oversight of production  
▪ RF does not apply when DOT performs materials sampling and testing for acceptance purposes.  
▪ Hold point: Installation shall only progress after receipt of BR-195. | Materials QA: Verify Bearing manufacturer on Approved List. Department observation of manufacturing and witness of manufacturers sampling and testing. 10% of the produced lots will be sampled and tested by the Department for verification per sections 716-06, 716-07, 716-11, 716-12 or Special Specification requirements.  
CI QA: Verify BR-195 and inspection stamps inspected at jobsite. |
| 566 – Modular Expansion Joint Systems | ▪ RF-3  
▪ Hold point: Installation shall only progress after receipt of manufacturer’s certification. | Materials QA: Verify use of systems on the Department’s Approved List and receipt of manufacturers certifications received / on file.  
CI QA: Assure shop drawing reviewed by DB and receipt of manufacturer’s certification report prior to installation. Verify adherence to manufacturer’s installation requirements. Observe watertight integrity test. |
| 567 – Bridge Joint Systems | ▪ RF-3  
▪ Hold point: Installation shall only progress after receipt of manufacturer’s certification. | Materials QA: Verify use of systems on the Department’s Approved List and receipt of manufacturers certifications received / on file.  
CI QA: Assure any shop drawing reviewed by DB and receipt of manufacturer’s certification report prior to installation. Verify adherence to manufacturer’s installation requirements. Observe watertight integrity test. |
| 568 – Bridge Railing | ▪ RF-3 for projects where Design Builder performs oversight of production  
▪ RF does not apply when DOT performs materials sampling and testing for acceptance purposes at off-site fabrication sites. | Materials QA: Verify manufacturer’s certification with test results received / on file. Drop Weight Tear Test each heat of bridge rail as outlined in NYSDOT specification 710-23.  
CI QA: Verify installation progressed per 568-3. Random testing of connections requiring tightening to specified torque. |
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| 569 – Permanent Concrete Traffic Barrier for Structures | ▪ RF-2 | Materials QA: Plant inspection per requirements of 501 for concrete production for cast-in-place (CIP) construction. Verify precast products provided from approved Precaster listed on the Dept Approved List and produced under QC/QA program. Perform all sampling and testing of concrete per MM9.2. Samples taken at a frequency once for every 200 cubic yards of concrete placed. Acceptance based on compressive strength and air content. For precast verify that QC review of drawings performed properly and certifications provided.  
CI QA: for CIP verify all field items per QC Inspection requirements prior to concrete placement. Review materials certifications for reinforcing. Observe QC checks performed such that design is met for items such as thickness, reinforcing spacing, and grade and cross slope as determined by dry run. Verify acceptable curing materials on hand prior to placement. |
| 570 – Paint Removal Operations | ▪ RF-3 | Materials QA: Verify HEPA filters meet specification requirements.  
CI QA: Performance of the containment system during paint removal operations shall be in accordance with the relevant parts of 570. |
| 571 - Treatment and Disposal of Paint Removal Waste | ▪ RF-3 | Materials QA: NA  
CI QA: Verify waste disposal progressed in accordance with 571. |
CI QA: Verify paint has been applied in accordance with 572. |
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<tr>
<td>576, Bridge Drainage System</td>
<td>▪ RF-3</td>
<td>Materials QA: Verify materials conform to 576-2 through review of certifications. CI QA: Verify DB receipt of appropriate certifications. Installation per plans or shop drawings. Adherence to Steel Construction Manual for any metallic product installation. Assure field testing performed per specification.</td>
</tr>
<tr>
<td>578 - Bonded Concrete Overlay for Structural Slabs</td>
<td>▪ RF-2</td>
<td>Materials QA: Plant inspection per requirements of 501 for concrete production. Rebar acceptance per 556. Miscellaneous materials conformance per various 700 section requirements. Perform plastic air content and 28 day compressive strength per MM9.2, per concrete mixture at 10% of QC frequency. CI QA: Observe QC Inspection progressing per standard specifications or QC Plan. Observe DB concrete sampling and testing of concrete for air and slump at frequencies per MM9.2. Review materials certifications for various supplied items. Observe QC checks performed such that design is met for characteristics such as thickness, reinforcing spacing, cover, and grade. Verify acceptable curing materials on hand prior to placement.</td>
</tr>
<tr>
<td>579 - Structural Slab Reconstruction Preparation</td>
<td>▪ RF-3</td>
<td>Materials QA: Concrete, if required, per 501. Verify acceptability of QC tests for plastic air content and 28 day compressive strength per MM9.2, per concrete mixture. CI QA: Verify removal limits and surfaces prepared properly per specification requirements. Verify concrete repairs progressed per 555.</td>
</tr>
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| 582 - Removal and Replacement of Structural Concrete | ▪ RF-2  
▪ Witness point for all structural applications prior to concrete placement, to verify cover, rebar quantity and spacing, and verify proper placement of appurtenances as necessary. | Materials QA: Plant inspection per requirements of 501 for concrete production. Rebar acceptance per 556. Miscellaneous materials conformance per various 700 section requirements. Perform plastic air content and 28 day compressive strength per MM9.2, per concrete mixture at 10% of QC frequency.  
CI QA: Observe QC Inspection progressing per standard specifications or QC Plan. Observe DB concrete sampling and testing of concrete for air and slump at frequencies per MM9.2. Review materials certifications for various supplied items. Observe QC checks performed such that design is met for characteristics such as thickness, reinforcing spacing, cover, and grade. Verify acceptable curing materials on hand prior to placement. |
| 583 - Shotcrete | ▪ RF-2  
▪ Witness point for qualification panel  
▪ Witness point for all structural applications prior to concrete placement, to verify cover, rebar quantity and spacing, and verify proper placement of appurtenances as necessary. | Materials QA: Qualification panels should be observed by Department staff, verification using test panels taken every 1000 sf for compressive strength.  
CI QA: OV review documentation of all materials components from AL. All cores for reinforcement encasement be retained for OV evaluation |
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| 584 - Specialized Overlays for Structural Slabs | ▪ RF-2  
▪ Witness point for all structural applications prior to concrete placement, to verify cover, rebar quantity and spacing, and verify proper placement of appurtenances as necessary | Materials QA: Plant inspection per requirements of 501 for concrete production. Rebar acceptance per 556. Miscellaneous materials conformance per various 700 section requirements. Perform plastic air content and 28 day compressive strength per MM9.2, per concrete mixture at 10% of QC frequency.  
CI QA: Observe QC Inspection progressing per standard specifications or QC Plan. Observe DB concrete sampling and testing of concrete for air and slump at frequencies per MM9.2. Review materials certifications for various supplied items. Observe QC checks performed such that design is met for characteristics such as thickness, reinforcing spacing, cover, and grade. Verify acceptable curing materials on hand prior to placement. |
| 585 - Structural Lifting Operations | ▪ RF-3  
▪ Witness point for DCES review of working drawings | Materials QA: N/A  
CI QA: Verify lifting progressed via working drawings developed by DB. |
| 587 - Bridge Railing Reconstruction | ▪ RF-3 | Materials QA: Verify manufacturer’s certification with test results received / on file. Drop Weight Tear Test each heat of bridge rail as outlined in NYSDOT specification 710-23 for any new materials.  
CI QA: verify construction progressed per specifications |
| 589 - Removal of Existing Steel | ▪ RF-3 | Materials QA: N/A  
CI QA: Verify work progressed per SCM and QC plan |
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<td>590 - Adjustment of Bridge Appurtenances</td>
<td>▪ RF-3</td>
<td>Materials QA: Verify materials meet specification requirements, approved list as appropriate, and certifications received / on file. CI QA: verify construction progressed per specifications</td>
</tr>
<tr>
<td>594 - Timber and Lumber</td>
<td>▪ RF-3</td>
<td>Materials QA: Verify materials meet specification requirements, Approved List as appropriate, and certifications received / on file. CI QA: perform random check of 10% of the areas that have been inspected to determine they meet the criteria called for in the contract documents.</td>
</tr>
<tr>
<td>596 - Open Steel Floor</td>
<td>▪ RF-2 when DB is responsible for plant operations. ▪ RF does not apply when DOT performs materials sampling and testing for acceptance purposes at off-site fabrication sites.</td>
<td>Materials QA: Steel fabrication off-site per the SCM. The Design-Builder will progress any necessary shop drawings and perform QC and QA as defined in the SCM. The Department will perform the requirements of the SCM at 10% of the defined QA requirements to verify conformance with specifications. CI QA: Verify erection per SCM. Observe field repairs to paint damaged during erection performed according to Section 572.</td>
</tr>
<tr>
<td>597 - Timber Bridge Railing and Transitions</td>
<td>▪ RF-3</td>
<td>Materials QA: Verify materials meet specification requirements, Approved List as appropriate, and certifications received / on file. The Design-Builder will progress any necessary shop drawings and perform QC and QA as defined in the SCM. CI QA: perform random check of 10% of the areas that have been inspected to determine they meet the criteria called for in the contract documents. Assure any shop drawing reviewed by DB.</td>
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| 602, Rehabilitation of Culvert and Storm Drain Pipe | ▪ RF-3 | Materials QA: Materials acceptance based on appearing on the NYSDOT Approved List as per 602 requirements and manufacturer’s cert that the material conforms to requirements of the 602 spec.  
CI QA: Verification of materials acceptability. Observe conformance with manufacturers QC / Installation Plan on file with Director, Materials Bureau. |
CI QA: Observe materials installation per 603. Observe earthwork compaction testing per 203. |
| 604, Drainage Structures | ▪ RF-2 - cast-in-place products  
▪ RF-3 - precast products produced per Materials QC/QA program requirements from approved list manufacturer. | Materials QA: Plant inspection per requirements of 501 for concrete production for cast-in-place (CIP) construction. Perform plastic air content and 28 day compressive strength per MM9.2, per concrete mixture at 10% frequency of QC. Verify precast products provided from approved Precaster listed on the Dept Approved List. Verify earthwork materials per 203.  
CI QA: for CIP, verify all field items per QC Inspection requirements prior to concrete placement. Review materials certifications for reinforcing. Observe QC checks performed such that design is met for items such as thickness, reinforcing spacing, cover, etc... Verify acceptable curing materials on hand prior to placement. Perform all sampling and testing of concrete per MM9.2. For precast verify that QC review of drawings performed properly and certifications provided. Observe earthwork compaction testing per 203 |
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| 605, Underdrains      | RF-3                                     | Materials QA: Verify Approved List materials and certifications received / on file per appropriate 700 sections  
CI QA: Observe installation to proper depth and use of acceptable filter material. |
| 606, Guide Railing    | RF-2 for concrete  
RF-3 for all other materials  
RF does not apply when DOT performs materials sampling and testing for acceptance purposes at off-site fabrication sites. | Materials QA: Verify Box Beam Guide Rail producers on Approved List.  
Verify manufacturer’s certification with test results received / on file.  
NYSDOT to perform Drop Weight Tear Test each heat of box beam guide rail as outlined in 710-21 and Materials Method 14.  
CIP concrete barrier and end assemblies – Verify plant inspection per requirements of 501 for concrete production. Rebar acceptance per 556. Miscellaneous materials conformance per various 700 section requirements. Perform plastic air content and 28 day compressive strength per MM9.2, per concrete mixture at 10% frequency of QC.  
Precast concrete barrier – Verify material production per 704-03 and precast manufacturers certification received / on file.  
Corrugated Guide Rail and Cable Guide Rail – Verify material certification received / on file.  
CI QA: Verify specific guiderail type installation per appropriate 606. Observe QC concrete inspection per MM9.2 |
| 607, Fences           | RF-3                                     | Materials QA: Verify materials certifications received / on file.  
CI QA: Assure any shop drawing reviewed by DB. Perform random check of 10% of the areas that have been inspected to determine they meet the criteria called for in the contract documents. |
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| 608 – Sidewalks, Driveways, Bicycle Paths, and Vegetation Control Strips | • RF-2 for concrete  
• RF-3 for other materials | Materials QA: Sample WWF, Brick and Pavers as per Materials Procedure 05-02. See 401, Plant Production for HMA. Plant inspection per requirements of 501 for concrete production. Perform plastic air content per MM9.2, per concrete mixture at 10% of QC. Miscellaneous materials conformance per various 700 section requirements.  
CI QA: observation, documentation review random checks to verify quantity and ensure requirements are being followed and met. Observe QC concrete inspection per MM 9.2. |
| 609, Curb and Curb & Gutter | • RF-3 | Materials QA: Approved List for 714-01 Stone and Granite curb. For HMA, review documentation with random observation of HMA production. MP 401 allows producer to certify HMA used for 609 items with allowable QA testing, if desired. Plant inspection per requirements of 501 for concrete production. Observe plastic air content per MM9.2, per concrete mixture. Verify miscellaneous materials conformance per various 700 section requirements.  
CI QA: observation, documentation review and random checks to verify quantity and ensure requirements are being followed and met. Observe QC concrete inspection per MM 9.2. |
| 610 - Ground Vegetation – Preparation, Establishment and Management | • RF-3  
• Hold point for topsoil placement until material testing results are received.  
• Hold point for compost with biosolids until material certification received. | Materials QA: Check documentation required by specifications to verify compliance  
CI QA: perform random check of 10% of the areas that have been inspected to determine they meet the criteria called for in the specifications. Verify appropriately licensed applicator for chemical weed control methods. |
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| 611 – Planting, Transplanting and Post-Planting Care | • RF-3  
• Hold point on installation of Specimen plants until material approval.  
• Witness point on first instance of transplanting operation.  
• Witness point on inspection of first delivery of each plant type. | Materials QA: Observe the inspection of the first delivery of each plant material type (e.g.: deciduous tree, coniferous shrub). Verify certifications required by specification. Verify that the material used on the project is the same as that specified in the contract documents, at a rate of 10% of the QA frequency.  
CI QA: perform random check of areas that have been inspected, to determine they meet the criteria, including placement locations, called for in the contract documents as follows:  
10% of roadside,  
15% of streetscape and  
20% of planting for environmental permit requirements |
| 613 – Wildlife and Ecology            | • RF-2 for any materials or performance testing required by environmental permit  
• RF-3 for all other non-environmental permit work  
• Witness point the start of any permit-related ecological treatment (e.g.: stream restoration). | Materials QA: Review documentation required by specifications and environmental permits to verify material or testing compliance. Perform any required testing at 10% of QC requirements or per direct environmental requirements  
CI QA: perform random check of 10% of the areas that have been inspected to determine they meet the criteria called for in the specifications. Assure any field testing is performed per specification. |
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| 614 – Pruning, Improving and Removing Existing Vegetation | ▪ RF-3  
▪ Witness point for verification of trees to be pruned or removed prior to work start in streetscape or areas subject to permit | Materials QA: Check documentation required by specifications to verify compliance.  
CI QA: perform random check of the areas that have been inspected to determine they meet the criteria called for in the contract documents as follows:  
10% of roadside  
15% of streetscape  
20% of areas subject to permit (e.g.: NYC parks, forest preserves) |
| 615 – Landscape Appurtances | ▪ RF-3  
▪ Witness point for verification that approved equal meets the  
▪ Hold point for field layout of one-of-a-kind site design (e.g. play equipment, art installation) | Materials QA: Check documentation required by specifications to verify compliance  
CI QA: Assure any shop drawing reviewed by DB. Observe the first installation of each type of appurtenance, and 20% of any subsequent installation, including placement location. |
| 616 – Soil Bioengineering | ▪ RF-3  
▪ Witness point on inspection of first delivery of each plant type.  
▪ Witness point for location of any material in streambed. | Materials QA: Check documentation required by specifications and environmental permits to verify compliance. Certified copies of laboratory test results supplied by DB.  
CI QA: Verification of materials acceptability. Observe the first installation of each type of facility, and 20% of any subsequent installations. Secure placement of materials to provide protection from erosion. |
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| 617 - Invasive Species Management | ▪ RF-3  
▪ Witness point on layout of proposed treatment area.  
▪ Witness point for location and operation of equipment washing station. | Materials QA: Check documentation required by specifications and environmental permits to verify compliance.  
CI QA: perform random check of 10% of the areas that have been inspected to determine they meet the criteria called for in the specifications. Verify appropriately licensed applicator for chemical weed control methods. |
| 619, Work Zone Traffic Control (WZTC) | ▪ RF-3 for materials. No physical testing expected but requires verification of adherence to specifications and standards of application on daily basis.  
▪ Witness point of all traffic control / safety operations. | Materials QA: verify products on Approved List or conforms to requirements of 619-2 references as appropriate.  
CI QA: Assure DB personnel competency for safety oversight of WZTC and that all operations are compliant with 619, safety plan, and MUTCD requirements. |
| 620, Bank and Channel Protection | ▪ RF-2 only if soundness testing deemed necessary and performed by Design Builder.  
▪ RF-3 for any Department accepted stockpiles / materials | Materials QA: Stockpile material, soundness testing if necessary, based on geologic source report data. Visual examination of materials for size and gradation. Block pavers per certification and Approved List of 704-04. Gabions per 712-15  
CI QA: random visual inspection of materials used and practices followed for installation. Secure placement of stone materials to provide protection from erosion. See GCP 14. |
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</table>
| 622 – Buildings and Miscellaneous Structures | • RF-1 for new building erections and structural alterations where materials testing can be performed by Design-Builder and verification testing possible (i.e. concrete, earthwork items, etc...).  
• RF-2 for non structural alterations  
• RF-3 for non-testable products or materials accepted on Approved List.  
• Hold point for OGS Construction permit  
• Hold point for foundation strength  
• Additional Witness and Hold point per applicable Material Sections referenced in contract documents. | Materials QA: Check documentation required by specifications to verify compliance. Certified copies of laboratory test results supplied by DB. Review “Commissioning” and any testing of systems (i.e. ITS, fire suppression, elevators, etc...) for compliance with building design.  
CI QA: Review of CPM schedule by DB. DB informs Department of achievement/adjustment of project milestones. Assure any shop drawing reviewed by DB. Verify building trade inspections completed. Perform random check of 20% of the areas that have been inspected to determine they meet the criteria called for in the specifications. |
| 623 - Screened Gravel, Crushed Gravel, Crushed Stone, Crushed Slag | • RF-3 | Materials QA: verify materials meet 703-02  
CI QA: Review calculations for quantities used if in-place measure. Verify quantities if measured by weight. |
CI QA: observation, documentation review and random checks to verify quantity and ensure placement requirements are being followed. |
| 630 - Barricades | • RF-3 | Materials QA: Corrugated Guide Rail – Verify material certifications received / on file. Verify materials on Approved List as appropriate  
CI QA: Verify completed installation per plans. |
### Specification Section | Risk Factor, applications, and hold points | Quality Assurance Actions and Testing
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633 – Conditioning Existing Pavement Prior to Hot Mix Asphalt (HMA) Overlay | ▪ RF-3 | Materials QA: See 401 for HMA production requirements. Small quantities accepted based on certification per 401
CI QA: Observation, documentation review and random checks to verify quantity to ensure placement requirements are being followed and met.

635 - Cleaning and Preparation of Pavement Surfaces for Pavement Markings | ▪ RF-3 | Materials QA: N/A
CI QA: Verify cleaning operations do not damage pavements to remain in place and are progressed in a safe manner to protect traffic. Timely replacement of pavement markings per Dept requirements for safety.

638 - White Synthetic Resin Binder Concrete | ▪ RF-2 | Materials QA: See 401 for HMA production requirements. Small quantities accepted based on certification per 401
CI QA: Observation, documentation review and random checks to verify quantity and ensure requirements are being followed and met.

640, Reflective Pavement Marking Paints | ▪ RF-3 | Materials QA: Verify product appears on the Approved List.
CI QA: Random verification of placement in conformance with the MUTCD.

643 – Noise Barriers | ▪ RF-3 | Materials QA: verify materials used meet requirements for the type of barrier installed. Certifications for testing as appropriate. See 501 for concrete production. Quantities less than 50 CY accepted on certification. Verify DB test results for foundation concrete compressive strength meets barrier design requirements. Observe concrete air content testing per MM9.2.
CI QA: Verify completed installation per plans.

▪ Hold point for foundation strength
<table>
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<tr>
<th>Specification Section</th>
<th>Risk Factor, applications, and hold points</th>
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</thead>
</table>
| 644 – Overhead Sign Structures | • RF-2 for CIP concrete sampling and testing  
• RF-3 for other components and precast concrete  
• RF does not apply when DOT performs materials sampling and testing for acceptance purposes at off-site fabrication sites.  
• Hold point for foundation strength prior to setting any overhead structures or poles.  
• Witness point for pole installation and any bolt tightening. | Materials QA: Item 644 may require the use of stainless steel hardware. SS hardware stock lot sampled, tested and approved according to 715-16 prior to use. Exception is grade B8 bolts less than 3/8” in diameter, which are accepted based on chemistry only. Plant inspection per requirements of 501 for concrete production. Rebar acceptance per 556. Miscellaneous materials conformance per various 700 section requirements. Perform plastic air content and 28 day compressive strength per MM9.2, per concrete mixture at 10% of QC frequency. Verify materials on Approved List as appropriate. Refer to Special Specification Item# 645.03XXXX11 for sheeting.  
CI QA: Verify excavation per 206, select structural fill per 203. Verify concrete installation per 555. |
| 645, Signs | • RF-3  
• RF does not apply when DOT performs materials sampling and testing for acceptance purposes at off-site fabrication sites.  
• Hold point for foundation strength prior to setting structures or poles.  
• Witness point for pole installation and any bolt tightening. | Materials QA: Verify SS hardware stock lot sampled, tested and approved according to 715-16 prior to use (exception is grade B8 bolts less than 3/8” in diameter, which are approved based on chemistry only). See 501 for concrete production. Quantities less than 50 CY accepted on certification. Observe concrete air content testing per MM9.2. Rebar acceptance per 556. Miscellaneous materials conformance per various 700 section requirements. Verify materials on Approved List as appropriate. Verify sign panel compliance with 730. Refer to Special Specification Item# 645.03XXXX11 for sheeting.  
CI QA: Verify conformance with plans, Standard sheets, Materials Detail sheets and Approved Lists. Verify placement locations, erection conforming to standard sheets, and visual applicability for safety. |
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<tr>
<th>Specification Section</th>
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</table>
| 646 - Delineators, Reference Markers and Snowplowing Markers | ▪ RF-3 | Materials QA: Verify conformance with Standard Sheets and product appearing on the Approved List  
CI QA: verify placement locations, erection conforming to standard sheets, and visual applicability for safety. |
| 647 - Removing, Storing and Relocating Signs | ▪ RF-3 | Materials QA: Verify new / replacement materials conform to 645.  
CI QA: Verify conformance with plans, Standard sheets, Materials Detail sheets, and Approved Lists. Verify placement locations, erection conforming to standard sheets, and visual applicability for safety. |
Perform grout cube breaks on 10% of the number required in the QA plan.  
CI QA: Observe steering and tracking procedures for the first installation, and 10% of the subsequent installations. Observe monitoring plan for the first installation, and for 10% of the subsequent installations |
| 652 - Furnishing and Applying Salts | ▪ RF-3 | Materials QA: verify materials meet 712-02 or 712-03  
CI QA: review documents that application rates are adhered to and that treatments are effective |
<table>
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<tr>
<th>Specification Section</th>
<th>Risk Factor, applications, and hold points</th>
<th>Quality Assurance Actions and Testing</th>
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</thead>
</table>
| 654 – Impact Attenuators - Permanent | ▪ RF-2 for concrete or grout compressive strength  
▪ RF-3 for other components  
▪ Hold point for foundation strength prior to setting attenuators | Materials QA: See 501 for concrete production. Quantities less than 50 CY accepted on certification. Perform plastic air content and 28 day compressive strength per MM9.2, per concrete mixture at 10% of QC frequency. Rebar acceptance per 556. Miscellaneous materials conformance per various 700 section requirements and certifications as appropriate. Verify materials on Approved List as appropriate.  
CI QA: Verify conformance with manufacturer’s drawings, plans, Standard sheets, Materials Detail sheets, and Approved Lists. |
| 655, Frames, Grates and Covers | ▪ RF-3  
▪ RF does not apply when DOT performs materials sampling and testing for acceptance purposes at off-site fabrication sites. | Materials QA: review certification stating that castings (frames, grates and covers) meet the NYS Standard Sheets for castings, meet Buy America clause. Verify iron castings with “Proof Loaded” designs appear on Approved List for Proof Loaded Castings.  
CI QA: verify placement true to line and grade and proper bearing on underlying surface. |
| 656, Miscellaneous Metals | ▪ RF-3 | Materials QA: verify materials requirements of 715 and 725 as appropriate. Galvanizing performed per 719-01. Review certifications as appropriate. Random sampling when deemed necessary.  
CI QA: Verify work progresses per the Steel Construction Manual. |
| 659 - Telecommunication Utilities | ▪ RF-3 | Materials QA: Verify compliance with special provisions of local municipality and/or respective utility company  
CI QA: Verify earthwork progressed per section 206 requirements as appropriate. Verify DB coordination with local utility |
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<thead>
<tr>
<th>Specification Section</th>
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</thead>
</table>
| 660, Utilities         | ▪ RF-3                                     | Materials QA: Verify compliance with special provisions of local municipality and/or respective utility company  
CI QA: Verify earthwork progressed per section 206 requirements. |
| 661, Electric Utilities| ▪ RF-3                                     | Materials QA: Verify compliance with special provisions of local municipality and/or respective utility company  
CI QA: Verify earthwork progressed per section 206 requirements as appropriate. Verify DB coordination with local utility. |
| 662, Gas, Oil and Steam Utilities | ▪ RF-3 | Materials QA: Verify compliance with special provisions of local municipality and/or respective utility company  
CI QA: Verify earthwork progressed per section 206 requirements as appropriate. Verify DB coordination with local utility. |
| 663, Water Supply Utilities | ▪ RF-3 | Materials QA: Verify compliance with special provisions of local municipality and/or respective utility company. Materials compliance per 663.2. Concrete production per 501, with exceptions as noted in 663. Review / verify DB test results for concrete compressive strength meets design requirements. Observe concrete air content testing per MM9.2. at 10% of QC frequency  
CI QA: Verify earthwork progressed per section 206 requirements as appropriate. Verify DB coordination with local utility. |
## New York State Department of Transportation

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<tr>
<th>Specification Section</th>
<th>Risk Factor, applications, and hold points</th>
<th>Quality Assurance Actions and Testing</th>
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<tbody>
<tr>
<td>664, Sanitary Sewer Utilities</td>
<td>▪ RF-3</td>
<td>Materials QA: Compliance with special provisions of local municipality and/or respective utility company</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CI QA: Verify earthwork progressed per section 206 requirements as appropriate. Verify DB coordination with local utility</td>
</tr>
<tr>
<td>670 - Highway Lighting System</td>
<td>▪ RF-3</td>
<td>Materials QA: See 501 for concrete mixture requirements. Concrete production accepted on certification. Observe plastic air content performed per MM9.2 procedures and frequency. Rebar acceptance per 556. Miscellaneous materials conformance per various 700 section requirements and certifications as appropriate. Verify materials on Approved List as appropriate.</td>
</tr>
<tr>
<td></td>
<td>▪ Hold point for foundation strength prior to setting structures or poles.</td>
<td>CI QA: Verify shop drawing reviews completed by DB prior to material delivery. Random review of installation per standard specifications. Test of system prior to service.</td>
</tr>
<tr>
<td></td>
<td>▪ Witness point for pole installation and any bolt tightening.</td>
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<td>▪ Hold point for all testing of systems prior to placing into service.</td>
<td></td>
</tr>
<tr>
<td>Specification Section</td>
<td>Risk Factor, applications, and hold points</td>
<td>Quality Assurance Actions and Testing</td>
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</tr>
<tr>
<td>680, Traffic Signals</td>
<td>▪ RF-2 for concrete</td>
<td>Materials QA: See 501 for concrete mixture requirements. Concrete production accepted on certification. Perform plastic air content and 28 day compressive strength per specification following MM9.2, at 10% of QC frequency. Rebar acceptance per 556. Verify precast components conform to 723-45. Miscellaneous materials conformance per various 700 section requirements and certifications as appropriate. Verify materials on Approved List as appropriate. Verify certification from manufacturer for compliance with 724 requirements.</td>
</tr>
<tr>
<td></td>
<td>▪ RF-3 for all other materials</td>
<td>CI QA: Verify excavation per 206, select structural fill per 203. Verify concrete strengths achieved prior to any loading. Pole erection per standard sheets and compliance with any MUTCD requirements. Verify appropriate testing of signal systems are completed prior to placement into service. Verify coordination with utilities and agency maintaining the signals as appropriate.</td>
</tr>
<tr>
<td></td>
<td>▪ Hold point for achieving concrete strength prior to loading / installing poles.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>▪ Hold point for all testing of systems prior to placing into service.</td>
<td></td>
</tr>
<tr>
<td>685, Epoxy ReflectORIZED Pavement Markings</td>
<td>▪ RF-3</td>
<td>Materials QA: Verify product appears on the Approved List</td>
</tr>
<tr>
<td>687, Thermoplastic ReflectORIZED Pavement Markings</td>
<td>▪ RF-3</td>
<td>CI QA: Verify placement per plans, Standard sheets and MUTCD on clean / prepared surfaces, under acceptable atmospheric conditions, and using proper WZTC. Verify retro-reflectivity</td>
</tr>
</tbody>
</table>

Materials QA: See 501 for concrete mixture requirements. Concrete production accepted on certification. Perform plastic air content and 28 day compressive strength per specification following MM9.2, at 10% of QC frequency. Rebar acceptance per 556. Verify precast components conform to 723-45. Miscellaneous materials conformance per various 700 section requirements and certifications as appropriate. Verify materials on Approved List as appropriate. Verify certification from manufacturer for compliance with 724 requirements. CI QA: Verify excavation per 206, select structural fill per 203. Verify concrete strengths achieved prior to any loading. Pole erection per standard sheets and compliance with any MUTCD requirements. Verify appropriate testing of signal systems are completed prior to placement into service. Verify coordination with utilities and agency maintaining the signals as appropriate. CI QA: Verify placement per plans, Standard sheets and MUTCD on clean / prepared surfaces, under acceptable atmospheric conditions, and using proper WZTC. Verify retro-reflectivity.
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<tr>
<th>Specification Section</th>
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</thead>
<tbody>
<tr>
<td>688, Preformed Reflectorized Pavement Markings</td>
<td>RF-3</td>
<td>Materials QA: Verify product appears on the Approved List CI QA: Verify placement per plans and MUTCD on clean / prepared surfaces, under acceptable atmospheric conditions, and using proper WZTC.</td>
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It is the Department'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 SPECIAL DBE REQUIREMENTS

The Disadvantaged Business Enterprise (DBE) Program will be coordinated by the DBE / Civil Rights Compliance Manager.

The Design-Builder shall maintain ongoing communications with the Agency’s Public Involvement Coordinator to ensure that commitments to the community concerning DBE objectives and initiatives are honored and that information regarding the status of the DBE program and goal attainment is communicated to the public throughout the Contract period.

2.7 COMPUTER AND NETWORKING REQUIREMENTS

The Design-Builder shall provide Computer and Networking equipment to the Construction Inspection Professional Engineering Firm (CIPE) as necessary. The Department will issue Citrix connection accounts to the Design-Builder and its CIPE firm. It is recommended that the Design-Builder test the network connection success prior to fully equipping its staff and the CIPE firm to ensure both hardware and software compatibility. As a minimum, twenty-four (24) Notebook PCs (one per Construction Inspector) shall be provided. Each Notebook computer shall include the following:

The following computer related specifications reflect the current technology utilized by the Department when making Citrix Connections and are provided for informational purposes only.

- 2/HM65 Chipset, and Intel HD Graphics 3000 (or equivalent)
- 2nd Generation Intel Core i5 2620M Processor, 2.70GHz (Turbo up to 3.40GHz), 1333MHz, 4MB L3 Cache
- Mobile Intel HM65 Chipset
- 14” diagonal LED-backlit HD anti-glare (1366x768)
- Intel HD Graphics 3000
- 4 GB 1333 MHz DDR3 SDRAM – Dual Channel Active
- 250 GB 7200 RPM 2.5 inch hard drive – or 120 GB Intel SSD
- DVD R/W SuperMulti DL Drive
- Full Keyboard
- Broadcom 4313 GN 802.11 g/b/n 1x1 WiFi Adapter
- 65W Hardware Kit
- 6 cell Li-ion Battery
- Integrated Gigabit Ethernet
SECTION 4   GENERAL PROJECT SCOPE OF WORK

4.1   SCOPE

The Design-Builder shall perform all Work necessary to prepare the Project site for construction, perform the required construction, maintain the site in suitable condition during all stages of construction and provide cleanup and restoration of the construction site and all disturbed areas. The major items of the Project Scope of Work are identified in Section 1.3.

4.2   STANDARDS AND REFERENCES

The Design-Builder shall perform the Work in accordance with the applicable Standards, Codes and Manuals cited in Section 1.5, unless otherwise stipulated in this Project Requirement.

4.3   REQUIREMENTS

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

The site work shall 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, standpipes, 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 pave all disturbed areas to match the existing surrounding ground elevation. The Design-Builder shall pave all disturbed areas with three (3) inches of Asphalt Top and Binder Course on three (3) inches of Asphalt Base Course with Twelve (12) inches of Sub-base. 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.

For minor structures, including buildings and sheds not covered by Project Requirement 23 – Demolition of Buildings, the Design-Builder shall remove and properly dispose of all objects encountered as part of or within the structures, buildings and/or sheds, including hazardous and regulated materials, foundations and underground tanks.
C) Drainage Details: Floors of voided piers, towers and box sections shall be contoured and weep holes provided to promote the drainage of water and prevent moisture accumulation. Any holes shall be screened to prevent the entry of birds and pests.

11.3.2 Stay Cables

Stay cables shall be designed in accordance with the PTI Recommendations for Stay Cable Design, Testing and Installation, and Part 5 – Special Provisions – Stay Cables.

11.3.3 Inspection and Maintenance Access

11.3.3.1 Inspection and Maintenance Platform/Traveler

A) The Design-Builder shall design, furnish, and install maintenance and inspection self-propelled travelers to provide for future inspection and maintenance access to the full underside and fascia of the superstructure of the cable-stayed bridge and cable anchorages. The inspection and maintenance self-propelled travelers shall be designed in detail to provide easy connection and implementation when needed. The travelers shall provide “hands on” accessibility to all areas of the underside and fascia of the superstructure of the cable-stayed Bridge and cable-anchorages. Suitable means shall be provided to access bearings, expansion joints, navigation lights and other components. The travelers shall be able to accommodate up to three (3) workers and associated equipment. The total minimum load requirement, including three workers and associated equipment is 1500 lbs. The travelers shall provide uninterrupted access from anchor pier to anchor pier.

B) The Design-Builder shall provide multiple connection/support points to facilitate rigging operation as a back up to the main span traveler(s). The support points shall be independent of the traveler rail supports.

C) The work shall include designing and fabricating structural, mechanical, hydraulic and electrical components, assembling of components, erecting the assembled platforms and or travelers and testing.

D) The inspection and maintenance traveler shall not be used for construction of the cable-stayed bridge. The travelers shall ride on an independent rail system and may not ride on bridge edge girders.

E) The Design-Builder shall provide operations and maintenance information on the system within the Inspection and Maintenance Manual.

11.3.3.2 Superstructure Interior Access Considerations

The interior of all box girder sections, regardless of construction material, shall provide a minimum vertical clearance of 6'-0". Access openings for box sections shall be a minimum of 3'-0" horizontally by 4'-0" high. Access doors shall be located at pier and tower locations, and shall provide direct access between the hollow pier/tower and box section. Design entrances to any box girders with in-swinging, hinged, solid doors. Design doors in diaphragms with in-swinging, hinged, 0.25-inch galvanized mesh screen doors. Equip all doors with a lock and
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<th>Reference Section</th>
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<td>Conceptual design report</td>
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<td>1</td>
<td>At Definitive Design Review</td>
</tr>
<tr>
<td>Bridge Inventory Forms</td>
<td>3</td>
<td>1</td>
<td>At Final Design Review</td>
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<tr>
<td>Corrosion protection plan</td>
<td>3</td>
<td>1</td>
<td>At Definitive Design Review</td>
</tr>
<tr>
<td>Inspection and Maintenance</td>
<td>3</td>
<td>1</td>
<td>At Final Design Review 90% Manual at 6 months prior to Final Acceptance. Final Manual at 4 weeks prior to Final Acceptance</td>
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<tr>
<td>Manual</td>
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<td>Bridge load rating</td>
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<td>At Final Design Review</td>
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<tr>
<td>Design Plans</td>
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<td>At Design Reviews</td>
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provided to hold the light in proper operating position. The navigation lights shall have siliconized bronze housings, mounting brackets, and swivel housing with stainless steel spindle. The attaching pipes, pull chains, and mounting hardware shall be type 316 stainless steel. Systems shall be complete with all accessories required for an operational and maintainable system.

Aviation beacons lights shall be subject to FAA approval and consistent with the Revaluation Statement with regard to minimizing avian/bird impacts. Housing shall be constructed type 316 stainless steel. The FAA has determined the aviation lighting is to be in accordance with AC 70-7460-1k Chapters 4, 5, and 12. **The Design-Builder shall provide a battery backup for the aerial beacon in order to provide an uninterruptible power supply.**

Temporary navigation lights and other navigation signals shall be installed during construction as required by the United States Coast Guard (USCG).

### 14.3.7 Lightning Protection System

The Design-Builder shall provide a UL master labeled lightning protection system. The installation shall comply with NFPA-780 and UL 96. All connections and components of the system shall be accessible for inspection and maintenance by the maintaining agency(s), and their maintenance equipment shall be verified as suitable by the Design-Builder.

Lightning protection of concrete pylons and stay cables of cable-stayed structures shall include the following:

A) Installation of collector lines from each stay cable anchorages to the transition line. Installation of a collector line from the reinforcement near the top of the pylon to the transition line. Collector lines should be made of copper and have a cross section of at least 0.08 inches; and

B) Installation of a transition line, in direct contact with the reinforcement cage, from the pylon tip down to the foundation. The transition line should have a cross section of at least 0.3 square inches and may consist of specifically designated reinforcing steel bars properly welded together to assure adequate electrical conductivity. The transition line should be connected to the foundation earth which typically consists of a horizontal closed loop of reinforcing steel bars (min 0.3 inches cross section) placed low in the foundation, inside the concrete. In case electrically isolated bearings are used, they need to be electrically connected to earth with cables (min. cross section of 0.08 square inches or copper bar $\frac{1}{4}$ inches). Composite structures are suggested to be protected similarly to concrete structures; and

C) UFER grounds as the sole grounding system are not acceptable.

### 14.3.8 Roadway Signage

The requirements for roadway signage are further defined in *Project Requirement 13 – Signing Pavement Marking and Signals*. No signage installed as part of the Project requires sign lighting.
Since the construction, reconstruction, or maintenance of the transportation project described below, identified as:

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<th>F.A. Project No.:</th>
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<tbody>
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<td>ROW Declaration No.:</td>
<td>Map Nos.:</td>
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<tr>
<td>Parcel Nos.:</td>
<td>County of: Kings and Queens</td>
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<tr>
<td>Contract No.: D900011</td>
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necessitates the adjustment of utility facilities as hereinafter described, the owner, New York City Department of Environmental Protection, of said facilities herewith agrees with the State of New York acting through the Commissioner of Transportation that this agreement shall apply to the accommodation of these utility facilities. Any adjustment of said facilities will be accomplished under the terms of this agreement, in accordance with the Rules and Regulations Governing the Accommodation of Utilities within the State Highway Right-of-Way, in compliance with the attached Special Note “Coordination with the Utility Schedule, and in accordance with the contract plans, specifications, proposal, amendment(s) or change order(s).

Existing Facilities

The existing New York City Department of Environmental Protection sewer facilities and associated appurtenances are to be abandoned, removed or replaced by the above described project and are presently located in Brooklyn and Queens New York within the reconstruction limits of the Kosciuszko Bridge Replacement project. The project is located within the New York State Right of Way as shown on the plans for the proposed transportation project and will be adjusted as follows for $0.00 to NYCDEP.

As part of this reconstruction project, the affected existing and proposed NYCDEP sewers will be video inspected by the NYSDOT Design Build Contractor to determine pre-existing and post construction for both existing and proposed pipes 12” and larger.

The Design Build Contractor shall be responsible for cleaning all existing catch basins,& manholes which are to remain within the project limits.

All proposed work described below is to be performed by the State’s Design Build Contractor. The NYCDEP will provide inspection services for all phases of the anticipated sewer construction.

Brooklyn

Eastbound Meeker Avenue

In eastbound Meeker Avenue, NYCDEP has an existing 18” diameter sewer main which flows east until Sutton Street, at that intersection the existing sewer crosses Meeker Avenue via an 18” diameter line and out of the project limit. There is also an existing 12” diameter VCP sewer main, which starts just west of Vandervoort Avenue and flows west toward Sutton Street. This line transitions into an 18” diameter ESVP sewer east of Lombardy Street.

Near the intersection of eastbound Meeker Avenue and Vandervoort Avenue there is an existing 12” diameter VCP sewer which flows south to an existing 12” diameter system in Vandervoort Avenue.
Under this bridge replacement project, the existing 12” diameter VCP combined sewer from west of Vandervort Avenue, and the transitional section including the 12” diameter to 18” diameter sewer just past Morgan Avenue will be replaced under this project. The existing sewer system will be abandoned in place. The proposed sewer system from Sutton Street going east will consist of 18” RCP, Class III on piles, from manhole 296K, to manhole no. 1 west of Morgan Avenue. From manhole no. 1 to manhole no. 3, the 18” diameter system will be constructed on piles just east of Morgan Avenue. On the east side of Morgan Avenue, from manhole no. 3, the Design Build Contractor shall be responsible for installing a new 15” RCP pipe on piles just west of Vandervort Avenue to manhole no.7. From manhole no. 7 to manhole no. 6 the Design Build Contractor shall install a 15” RCP pipe on piles.

There will be several catch basin connections along this noted segment. However, they are not discussed under this agreement.

In the intersection of Vandervort Avenue and eastbound Meeker Avenue, the Design Build Contractor shall install a section of 15” diameter RCP, Class III on concrete cradle from manhole no. 82 to manhole no. 85a, at the intersection of Anthony Street and Vandervort Avenue to the intersection with eastbound Meeker Avenue.

The Design Build Contractor shall install a 12” diameter DIP from manhole 9, to manhole no.80. From this manhole, he shall install a new 15” diameter RCP, Class III pipe from manhole no. 80 to manhole no. 10, located on the east side of Vandervort Avenue.

From manhole no. 10, the Design Build Contractor shall install an 18” diameter RCP, Class III pipe until new manhole no. 11 located in the realigned Cherry Street / divergence from eastbound Meeker Avenue.

**Westbound Meeker Avenue**

In westbound Meeker Avenue, NYCDEP has an existing network of existing sewers. Due to the complexity of the system, it will be described using intersections as reference.

From the intersection of westbound Meeker Avenue and Kingsland Avenue, there is an existing 12” diameter combined sewer with originates at Manhole 287K at the intersection of Sutton Street and westbound Meeker Avenue and flows toward Kingsland Avenue.

From the intersection of Sutton Street to Morgan Avenue there is an existing 12” diameter combined sewer overflow which originates at Manhole M287K and flows toward Morgan Avenue.

From the intersection of Driggs Avenue and westbound Meeker Avenue to the intersection of Van Dam Street and westbound Meeker there is an existing 12” combined sewer which starts at Manhole M112K and flows through Manholes M152K, M088K, M175K to M182K. At Manhole M182K, the system transitions to a 15” diameter sewer and flows to Manhole M150K at the intersection of Driggs Avenue and westbound Meeker Avenue. There is additional existing drainage structure at the intersection of Varick Avenue and westbound Meeker Avenue, but this system is out of the project limits.

As a result of street realignment near the intersection of westbound Meeker Avenue, and Van Dam Street there will be a new catch basin connection on Van Dam Street.

**Sutton Street**

NYCDEP has an existing 18” diameter VCP combined sewer main located in Sutton Street. This system begins in eastbound Meeker Avenue and crosses under the BQE and ties into Manhole M287K in westbound Meeker Avenue. This system continues north along Sutton Street and out of the project limits.

**Morgan Avenue**
At the intersection of Morgan Avenue and Driggs Avenue, NYCDEP has a complex sewer network. At this location there is a 15” emergency construction sewer that flows from westbound Meeker Avenue to Manhole M168K, and then from there, the sewer flows into Manhole M292K which at this connection the system turns into a 20” diameter combined sewer.

There is also a 12” combined sewer along westbound Meeker Avenue that flows from Manhole M289K to M244K then flows to M292K in Morgan Avenue, then out of the project limits.

There is a 15” diameter combined sewer connection in Morgan Avenue which flows from the south side of the BQE, under the BQE, and transitions to an 18” diameter system. This system flows to manhole M244K, then to manhole M292K and out of the project limits.

**Hausman Street**

In Hausman Street there is an existing 12” diameter ESVP sewer which flows south along Hausman, and flows into existing manhole M053K in westbound Meeker Avenue.

Under this bridge reconstruction project, the Design Build Contractor shall install a new catch basin connection at the intersection of Hausman Street and westbound Meeker Avenue due to curb realignment on westbound Meeker Avenue. This new 12” DIP connection will tie into the existing manhole M104K.

**Apollo Street**

In Apollo Street there is an existing 12” diameter VCP sewer which flows south along Apollo, and flows into existing manhole M182K in westbound Meeker Avenue.

Under this bridge reconstruction project, the Design Build Contractor shall install four (4) new catch basin connections at the intersection of Apollo Street and westbound Meeker Avenue due to curb realignment on westbound Meeker Avenue. Three (3) of these new 12” DIP connections will tie into a new manhole, manhole no. 1ME, in westbound Meeker Avenue, and one will connect to the existing 15” combined sewer.

**Anthony Street**

Anthony Street begins at the intersection of Morgan Avenue and Anthony Street. In Anthony Street, NYCDEP does not have a sewer network.

This is no anticipated sewer main work along Anthony Street under this bridge reconstruction project.

**Vandervoort Avenue**

NYCDEP has an existing 15” diameter combined sewer located in Vandervoort Avenue. This sewer main begins at Manhole M035K in eastbound Meeker Avenue as a 12” diameter combined sewer and then transitions to a 15” diameter sewer at Manhole M021K and continues along Vandervoort Avenue and out of the project limits.

Under this bridge reconstruction project a section of sewer in Vandervoort Avenue, specifically the 12” diameter sewer will be replaced by the Design Build Contractor with a new 15” RCP pipe, Class III, on concrete cradle, from manhole no. 82 to manhole no. 85, from eastbound Meeker Avenue to Anthony Street.

The Design Build Contractor shall also install two proposed catch basin connections at the divergence point of eastbound Meeker Avenue and the proposed Cherry Street which will connect to manhole no. 85, via 12” DIP, in Vandervoort Avenue.
Porter Avenue

NYCDEP has an existing 12" diameter VCP sewer starting at Manhole M128K in Porter Avenue. From here the Temporary connection and Plumber’s drain flows to Manhole M015K in eastbound Meeker Avenue.

Under this contract, this existing sewer system will be abandoned by the Design Build Contractor.

Varick Avenue

Varick Avenue does not have a NYCDEP sewer system within the project limits.

Under this bridge reconstruction project, the Design Build Contractor shall be responsible for all work necessary to install a new 18" diameter RCP, Class IV, pipe on piles from the intersection of Cherry Street and Varick Avenue, manhole no. 15, to proposed manhole no. 18.

The Design Build Contractor shall also install a proposed 24” diameter RCP, Class IV, pipe on piles from manhole no. 18 until proposed manhole no. 22. At manhole no. 22, the pipe transitions to a 30” diameter RCP, Class IV on piles, heading east until manhole no. 21. At manhole no. 21, the pipe turns south, as a 30' RCP, Class IV on piles and connects to the bridge drainage system at manhole no. 20. Manholes 18, 20, 21 and 22 will be constructed on piles.

At the intersection of proposed Cherry Street and Varick Ave, the Design Build Contractor shall install three catch basin connections which are located on the northwest, southwest, and southeast corners of the proposed roadway. These new connections will be via a 12" diameter DIP and will connect to proposed manhole no. 15.

Stewart Avenue

NYCDEP has an existing 12” diameter VCP sewer which begins at the intersection area of Thomas Street and Stewart Avenue. From manhole M002K, this system flows under the existing BQE and makes a connection at manhole M015K in Cherry Street, and then continues along Cherry Street to Gardner Avenue.

Since Thomas Street is going to be reconstructed, the Design Build Contractor shall install three (3) new catch basins and associated 12” DIP pipe connections in Thomas Street at the intersection of Stewart Avenue and Thomas Street. These new connections will connect to a proposed 15’ RCP pipe on piles in Stewart Avenue which connects to the proposed NYSDOT Bridge Drainage system at manhole no. 104, which is on piles.

On the south side of Stewart Avenue, two new catch basins and associated pipe will connect to proposed manhole no. 103 on piles, at the intersection of Cherry Street and Stewart Avenue. These new catch basin connections will be via a 12” diameter DIP. From manhole no. 103, the Design Build Contractor shall construct a new 12” DIP Class 56 pipe on piles along Stewart Avenue and connect this new system into the bridge drainage system at manhole no. 104, which is a drop manhole. Manhole nos. 103 and 104 will be constructed on piles.

Gardner Avenue

In Gardner Avenue, there is an existing 12” diameter clay pipe which flows from the intersection area of Thomas Street and Gardner Avenue, south to existing Manhole M016K.

Since Gardner Avenue will be reconstructed under this project, two new catch basins and associated 12” DIP connections will be constructed near the intersection of Gardner Avenue and Thomas Street and will
connect to the proposed manhole no.92. These new catch basins will connect to the proposed 12” diameter DIP, Class 56 on piles in Gardner Avenue via a new manhole no. 92, and this main will connect to new manhole no. 91. Manhole nos. 91& 92 will be constructed on piles.

At the intersection of Gardner Avenue and the existing Cherry Street, a new manhole no. 88, on piles, will be installed. This new manhole will serve as a connection point for four (4) catch basin locations at this intersection. The Design Build Contractor shall be responsible for connecting this system to the proposed bridge drainage system via a 15” diameter RCP, Class III on piles, and will connect to the bridge drainage system at manhole manhole no. 91. Manhole 88 and 91 will be constructed on piles.

**Scott Avenue**

According to available records, Scott Avenue does not have any existing NYCDEP sewer facilities within the existing roadway.

**Thomas Street**

Thomas Street starts at the intersection of Thomas Street and Varick Avenue. Currently, there are no existing NYCDEP sewer mains along Thomas Street until Stewart Avenue. At Stewart Avenue, there is an existing 12” diameter VCP sewer which begins at the intersection of Thomas Street and Stewart Avenue. From Manhole M002K, this system flows under the existing BQE and makes a connection at Manhole M015K in Cherry Street, and then continues along Cherry Street to Gardner Avenue.

The proposed sewer work in the intersection of Stewart Avenue and Thomas Street was included under the narrative description for Stewart Avenue.

**Cherry Street**

NYCDEP has an existing 12” diameter RCP combined sewer from the intersection from Cherry Street and Stewart Avenue to the intersection of Gardner Avenue and Cherry Street.

Since Cherry Street will be realigned to the south, the existing sewer system will be relocated. The Design Build Contractor shall install a new drainage system in the new Cherry Street which will consist of a new 18”diameter RCP, Class IV pipe from manhole no. (11) east to manhole no. 12 located in Porter Avenue.

From manhole no. 12, the 18” diameter pipe will continue to manhole no. 14. The main from manhole no. 14 to manhole 15 shall be constructed on piles. Manhole number 15 will be constructed on piles.

At the intersection of Varick Avenue and Cherry Street, the 18” diameter Class IV pipe on piles stops at manhole no. (15). From this manhole, the drainage system turns north along Varick Avenue to manhole no. (18), at this location the pipe changes to a 24” RCP, Class IV on piles until manhole no. (22). At manhole no. (22), the proposed system turns east and increases to a 30” diameter RCP, Class IV on piles system, until manhole no. (21). At this location the proposed drainage turns south and ties into manhole no. (20). Manholes 15, 18, 20, 21 and 22 will be constructed on piles.

**Queens**

**43rd Street (Hobson Avenue)**

NYCDEP has an existing 45” diameter PRCP which flows from the intersection of 54th Avenue and 43rd Street to the intersection of 56th Road and 43rd Street. At this intersection, the system flows into an existing chamber, S003Q, and then from the chamber the drainage flows into an existing 66” diameter PRCP into Newtown Creek.
There is no anticipated sewer work under this project in 43rd Street.

**56th Road**

In 56th Road, NYCDEP has an existing 12" diameter RCP storm sewer which flows from the intersection of 56th Road and Laurel Hill Boulevard south to the intersection of 56th Road and 43rd Street. Within 56th Road, the 12" diameter pipe transitions to a 24" diameter pipe at existing MH 038Q and then transitions again to a 30" diameter pipe at MH 060Q and continues south to the intersection with 43rd Street.

There is also a 12" diameter ESVP sewer pipe which flows along Laurel Hill Boulevard, then south along 56th Road and flows into the chamber at the intersection of 43rd Street and Laurel Hill Boulevard.

Under this project, the existing 12" diameter and 24" diameter storm sewers will need to be modified to account for the proposed 36" diameter trunk line being installed under this project. Manholes MH-045Q, MH-038Q and MH-060Q will need to be reconstructed as necessary.

**55th Avenue**

There is an existing 12" diameter ESVP sewer pipe which flows east into the exiting 45" diameter PRCP sewer in 43rd Street.

There is no anticipated sewer work under this project in 55th Avenue.

**54th Drive**

NYCDEP does not have an existing sewer system in 54th Drive.

There is no anticipated sewer work under this project in 54th Drive.

**54th Road**

NYCDEP does not have an existing sewer system in 54th Road.

There is no anticipated sewer work under this project in 54th Road.

**54th Avenue**

NYCDEP has an existing 45" diameter RCP sewer system in 54th Avenue. This system starts at the intersection of Laurel Hill Boulevard and flows east until the intersection of 43rd Street and 54th Avenue.

There is no anticipated sewer work under this project in 54th Avenue.

**Laurel Hill Boulevard**

In Laurel Hill Boulevard, the NYCDEP has an existing 39" diameter RCP sewer pipe which flows from the area near the Long Island Expressway and flows west until the intersection of 54th Avenue and Laurel Hill Boulevard. Here the system connects into the existing 45" diameter RCP pipe and flows down 54th Avenue.

NYCDEP also has an existing 12" diameter VCP sewer which begins near 54th Avenue and continues south along Laurel Hill Boulevard, near 55 Avenue this system increases to an 18" diameter pipe and flows under the existing BQE. Near 56th Road, this system increases to a 24" diameter VCP sewer and flows to Newtown Creek.

There is no anticipated sewer work under this project in Laurel Hill Boulevard.
Long Island Expressway Ramps / 53rd Avenue

NYCDEP has an existing 12” VCP diameter drainage system installed from 46th Street, west to 44th Street. At this point, the system increases to a 15” VCP diameter system. At manhole M008Q, the pipe increases again to a 24” RCP pipe and connects to an existing manhole, M032Q, in 43rd Street.

The Design Build Contractor shall install two new catch basins and associated piping on the eastbound BQE ramp to the eastbound Long Island Expressway ramp. These new connections will consist of 12” diameter DIP and will connect to the existing drainage system in 53rd Avenue.

The above stated utility relocation work will be performed by the State’s Design Build Contractor at no cost to the NYCDEP.
II. Financial Responsibility (check appropriate boxes):

☐ The facilities to be adjusted under the terms of this agreement are subject to Section 52 of the State Highway Law, and the cost of this adjustment is the sole responsibility of the owner.

☐ Subdivision 24 of Section 10 of the State Highway Law enables the Commissioner of Transportation to provide at the expense of the State, for adjustment to a municipally owned utility when such work is necessary as a result of State highway work. (Municipal Agreement required.)

☒ Subdivision 24-b of Section 10 of the State Highway Law enables the Commissioner of Transportation to participate in the necessary expenses incurred for adjustment of privately, publicly or cooperatively owned facilities, municipal utility facilities, or facilities of a corporation organized pursuant to the State Transportation Corporations Law. (Privately Owned Property Agreement or Reimbursement Agreement required.)

☐ Subdivision 27 of Section 10 of the State Highway Law enables the Commissioner of Transportation, upon the request of a municipality, to perform for and at the expense of such municipality specified work to be included within a State-let contract. (Betterment Resolution required.)

☐ Subdivision 33 of Section 10 of the State Highway Law enables the Commissioner of Transportation, upon the request of a public utility corporation, to perform for and at the expense of such public utility corporation specified work to be included within a State-let contract.

☐ Subdivision 13 of Section 30 of the State Highway Law enables the Commissioner of Transportation to enter into an agreement to reimburse with public funds the owner for necessary expenses incurred as a result of this adjustment, or to replace the facilities in kind.

☐ The owner will develop and keep a record of costs in accordance with the New York State Department of Transportation (NYSDOT) Reimbursement Procedures, and when federal funds participate in the cost, the Federal Highway Administration (FHWA) Federal-Aid Policy Guide Part 645, or as indicated below:

____________________________________________________________________________
____________________________________________________________________________
____________________________________________________________________________
III. **Physical Adjustment Method** (check appropriate boxes):

The actual adjustment or design engineering will be performed by the following method (s):

☒ Contract let by the Commissioner.

☐ Contract let by the Owner, (check applicable statement, i.e., a or b)

☐ a. Best Interests of State.

☐ b. Utility not sufficiently staffed or equipped.

☐ By the Owner’s forces.

IV. **Betterment, Salvage, and Depreciation Credits Due the Project** (check appropriate boxes):

☐ There will be no extension of service life, improved capacity nor any other betterment of the facility (as defined by the NYSDOT Utility Reimbursement Procedures and by FHWA Federal-Aid Policy Guide Part 645) as a result of the adjustments made pursuant to this agreement.

☐ There is betterment described as follows:

☐ The owner will not claim reimbursement for that betterment portion of the work, but will duly account for it as required by applicable NYSDOT and FHWA procedures.

☐ The owner hereby agrees to deposit with the Comptroller of the State of New York the amount of $______________ to cover the cost of the betterment as described above.

☐ The owner agrees to comply with the requirements of the NYSDOT Utility Reimbursement Procedure and FHWA Federal-Aid Policy Guide Part 645 with the respect to salvage and depreciation credits when applicable.

V. **General Covenants**

The owner hereby agrees to accept full title and responsibility for the adjusted facility in writing upon satisfactory completion of the work. Such acceptance will acknowledge the owner’s responsibility to maintain the facility in accordance with all applicable codes, standards and regulations, including his obligation, where applicable, to remove any or all of the facility from the highway at the order of the Commissioner of Transportation, all in accordance with the Rules and Regulations Governing the Accommodation of Utilities within the State Highway Right-of-Way. All compensable claims covered by this agreement will be included in one of the following:

A. Privately Owned Property Agreement executed prior to the performance of the work.

B. Municipal Agreement executed prior to performance of the work.

C. Reimbursement Agreement executed prior to performance of the work.

D. Such other agreement as approved by NYSDOT Office of Legal Affairs.
VI. References

The following documents are herewith incorporated in this agreement by reference (check appropriate boxes)


- Contract documents: Contract number D900011
  PIN  X731.24
  Plan sheets No. TBD

- Owner’s plan sheets

- Owner’s estimate sheets form No.

- Resolution dated , by
  - Granting the State of New York authority to perform the adjustment for the owner.
  - Agreeing to maintain facilities adjusted via State-let contract.
  - Authorizing deposit of funds by the owner.

- Certification by the owner or his agent that he has the legal authority to enter into this agreement.

_________________________________________________________________________________
(Print/Type Name)Owner or Agent (Signature) Title Date

___________________________________________________ Utilities Engineer

For NYSDOT Commissioner of Transportation Title Date
Since the construction, reconstruction, or maintenance of the transportation project described below, identified as:

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<th>Project Identification No.: X731.24</th>
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<td>Parcel Nos.:</td>
<td>County of: Kings and Queens</td>
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<td>Contract No.: D900011</td>
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Project Description: Contracts 1, 2, 3, & 4: Replacement of Kosciuszko Bridge over Newtown Creek (BINs 1075699, 107569A & 107569B) from Morgan Avenue to Long Island Expressway Interchange.

necessitates the adjustment of utility facilities as hereinafter described, the owner, New York City Department of Environmental Protection, of said facilities herewith agrees with the State of New York acting through the Commissioner of Transportation that this agreement shall apply to the accommodation of these utility facilities. Any adjustment of said facilities will be accomplished under the terms of this agreement, in accordance with the Rules and Regulations Governing the Accommodation of Utilities within the State Highway Right-of-Way, in compliance with the attached Special Note “Coordination with the Utility Schedule, and in accordance with the contract plans, specifications, proposal, amendment(s) or change order(s).

Existing Facilities

The existing New York City Department of Environmental Protection water main facilities and associated appurtenances are to be abandoned, removed or replaced by the above described project and are presently located in Brooklyn and Queens New York within the reconstruction limits of the Kosciuszko Bridge Replacement project. The project is located within the New York State Right of Way as shown on the plans for the proposed transportation project and will be adjusted as follows for an estimated amount which will be determined.

All proposed work described below is to be performed by the State’s Design Build Contractor. The NYCDep will provide inspection services for all phases of the anticipated water main work.

Brooklyn

Eastbound Meeker Avenue

In eastbound Meeker Avenue, NYCDEP has an existing 12” diameter water main which starts at the project limit, Kingsland Avenue, and continues eastbound in the south side of Meeker Avenue, past Morgan Avenue, to Vandervoort Avenue. At Vandervoort Avenue, this 12” diameter water main terminates into an 8” diameter water main which continues along Vandervoort Avenue.

Under this bridge reconstruction project, the above noted 12” diameter water main will be replaced with a new 12” diameter water main from Kingsland Avenue to Vandervoort Avenue. The 8” diameter water main will also be replaced under this project from the intersection of eastbound Meeker Avenue to just south of Anthony Street.

In Vandervoort Avenue, the 12” diameter water main begins again, heading in east direction. Again, this line starts at the 8” diameter water main in Vandervoort and continues east past Porter Avenue along the existing Cherry Street. This 12” diameter water main intersects a 20” diameter water main in Varick Avenue.
The 12" diameter water main starting from the intersection of Vandervoort Avenue and eastbound Meeker Avenue heading east to Varick Avenue will be replaced under the bridge reconstruction project.

From this point, the existing water main will be discussed under the existing Cherry Street narrative.

**Westbound Meeker Avenue**

In westbound Meeker Avenue, NYCDEP has an existing 12" water main that starts at the project limit, Kingsland Avenue, and continues east, past Sutton Street, Morgan Avenue, Hausman Street, Apollo Street, and once past Van Dam Street, the water main continues out of the project limits past the following roadways: Varick Avenue, Stewart Avenue, and terminates at the intersection of Gardner Avenue and Meeker Avenue. There are several fire hydrants off this main, that include fire hydrant #579, #596, #24, #37, #78, #129, #192, #223 and #57.

Under this bridge reconstruction project, this 12" diameter water main will be replaced from Van Dam Street, west to the intersection of Hausman Street and westbound Meeker Avenue. All affected fire hydrant connections and associated appurtenances will be replaced.

**Sutton Street**

NYCDEP has an existing 8" diameter water main located in Sutton Street. This line is serviced by a 12" diameter service line in westbound Meeker Avenue. This line continues north until its intersection with Driggs Ave and then continues out of the project limits. There is one fire hydrant in this segment of utility, numbered #598.

No water main work is anticipated for this street under the bridge reconstruction project.

**Morgan Avenue**

NYCDEP has an existing 8" diameter water main located in Morgan Avenue, specifically the portion of Morgan Avenue on the south side of eastbound Meeker Avenue. This line is serviced by a 12" diameter water main in eastbound Meeker Avenue. This 8" diameter main services the 8" diameter main in Anthony Street. The 8" diameter water main continues south and out of the project limits.

In Morgan Avenue, on the north side of westbound Meeker Avenue, NYCDEP has an existing 8" diameter water main. This water main is serviced by a 12" diameter water main located in Driggs Avenue. This water main continues along Morgan Avenue and out of the project limits.

Under this project only a small section of the 8" diameter water main on the south side of eastbound Meeker Avenue will be replaced due to the connection between the proposed 12" diameter water main replacement in eastbound Meeker Avenue and the exiting 8" diameter main in Morgan Avenue. No additional water main work is anticipated for this roadway.

**Anthony Street**

Anthony Street begins at the intersection of Morgan Avenue and Anthony Street. Here NYCDEP has an existing 8" diameter water main which continues east along Anthony Street, past Vandervoort Avenue and terminates in Porter Avenue. There are several fire hydrants located along this service line. They include the following hydrants #23, #42, #62, and #822.

To satisfy the request of the FDNY, a new 12" diameter water main will be installed between Stewart Avenue and Gardner Avenue, in Anthony Street. A new fire hydrant connection will be placed just west of the intersection of Gardner Avenue and Anthony Street and a new hydrant just east of Porter Avenue, along Anthony Street.
Vandervoort Avenue

NYCDEP has an existing 8” diameter water main located in Vandervoort Avenue. This water main is serviced by a 12” diameter main located on the south side of Cherry Street. This water main services connections along Anthony Street and then continues out of the project limits. This main is feed eastbound Meeker Avenue. This main is capped in eastbound Meeker Avenue.

The 8” diameter water main starting from the intersection of Vandervoort Avenue and eastbound Meeker Avenue south to Anthony Street will also be replaced under the bridge reconstruction project, as previously stated above. A new fire hydrant connection will be placed on the west side of Vandervoort Avenue.

Porter Avenue

NYCDEP has an existing 8” diameter water main located in Porter Avenue. This water main is capped just south of the existing Cherry Street, and runs south along Porter Avenue. This water main continues south and out of the project limits.

Since Cherry Street is going to be relocated, a segment of this 8” diameter water main will be replaced under the bridge reconstruction project. The new 8” diameter water main will connected to the proposed 12” DIP water main located in the proposed Cherry Street via a 12”x 8” connection. The new main will connect to the exiting main, just south of Anthony Street.

Varick Avenue

NYCDEP has an existing 20” diameter water main in Varick Avenue. This 20” main extends through the project limits and then beyond. This line services the water main along Cherry Street, and the line running west in eastbound Meeker Avenue.

The existing 20” diameter water main in Varick Avenue will be replaced under the bridge reconstruction project. The limits of replacement will be from just north of Thomas Street, then south just before Anthony Street. Two new fire hydrants will be installed on the east side of Varick Avenue, one near Anthony Street and the second will be constructed under the BQE.

Stewart Avenue

NYCDEP has an existing 12” diameter water main which extends from outside the project limits and enters the project limit, and continues south to Thomas Street. At this point this line is capped. This segment of water main services the fire hydrant located on Thomas Street.

Under this project, a new 12” diameter water main will be installed in Stewart Avenue. The new main will extend south from a connection point, just north of the intersection of Stewart Avenue and Thomas Street, and shall continue to a T connection in Anthony Street/Stewart Avenue intersection. New fire hydrants will be installed along Stewart Avenue to Anthony Street.

Gardner Avenue

NYCDEP has an existing 12” diameter water main, which runs north and south along Gardner Avenue. Several service connections are serviced by this line. There is an existing 8” service feed along Cherry Street from this main, as well as an 8” service feed along Anthony Street. There is an additional 8” diameter service connection which runs east along Thomas Street that is capped just prior to the BQE.
Under this project, a new 12” diameter water main will be installed in Gardner Avenue. This new main will be constructed from the intersection of Gardner Avenue and Thomas Street, south to the intersection of Gardner Avenue and Anthony Street where it will meet the existing water main. New connections will be required at the intersections of Gardner and Thomas, and Anthony Street and Gardner for new water mains in those respective streets. New fire hydrants will be installed as required.

**Scott Avenue**

Scott Avenue does not appear on the NYCDEP DDM Distribution Maps; therefore, no water main data could be obtained.

Under the bridge reconstruction project, a new 12” diameter water main will be installed in Scott Avenue from the area just north of the intersection of Thomas Street and Scott Avenue then south in Scott Avenue to the existing Cherry Street intersection. Three new hydrants will also be installed along Scott Avenue.

**Thomas Street**

Thomas Street starts at the intersection of Thomas Street and Varick Avenue. There are currently no existing NYCDEP water mains along Thomas Street until Stewart Avenue. At Stewart Avenue there is an existing fire hydrant connection, which is serviced by a 12” water main in Stewart Avenue. The 8” diameter water main runs along Thomas Street to its cap and fire hydrant location #46.

At the intersection of Thomas Street and Gardner Avenue, NYCDEP has an 8” diameter water service which is capped just prior to passing under the existing BQE. There are two fire hydrants located along this service line. The hydrant numbers are #55 and #66.

Under this bridge reconstruction project several new services will be installed in Thomas Street. These included the following improvements:

At the intersection of Varick Avenue and Thomas Street a new water main will be installed in Thomas Street, heading east along Thomas until Stewart Avenue. Two new fire hydrants will be installed off this main. The first hydrant is located just east of the intersection of Varick Avenue and Thomas Street, and the other hydrant will be installed near the intersection of Stewart Avenue and Thomas Street.

A new 12” diameter water main will be installed along Thomas from Gardner Avenue to Scott Avenue. A new fire hydrant will be installed along this segment of main. The new water main will be joined via T connections to a new pipe in Gardner Avenue and Scott Avenue.

There is no anticipated water main work along Thomas Street from Stewart Avenue to Gardner Avenue, since this segment of Thomas Street will remain non-operational under this project.

**Cherry Street**

NYCDEP has an existing 8” diameter water main that is a continuation of the water main along Cherry Street from the intersection of Cherry Street and Varick Avenue. This main is serviced from the 20” water main in Varick Avenue. This 8” main continues past Stewart Avenue and terminates into a 12” water main in Gardner Avenue where this main is capped. There are several fire hydrants located along this segment of water main. They include: Fire Hydrants #35, #32, and #45.

Since Cherry Street is going to be relocated under this project, this water main and the associated appurtenances will be relocated during construction. A new 12” diameter water main will be constructed from Porter Avenue, going east in Cherry Street. This new main will tie into a proposed 20” diameter water main in Varick Avenue. A new 12” diameter water main will tie into the proposed 20” main, just south of the above connection and will continue along the proposed Cherry Street. At Stewart Avenue,
the water main will be capped, and a new 12” T connection will be constructed, to allow the water main to continue down Stewart and join the new main at the intersection of Anthony Street and Stewart Avenue. The proposed Cherry Street will terminate at Stewart Avenue.

From Gardner Avenue to the termination of Cherry Street, a new 12” diameter water main will be installed from Gardner Avenue to the existing Scott Avenue in the existing Cherry Street. This new main will satisfy the requirements for FDNY for a continuous water main supply as well as fire hydrant spacing.

Queens

43rd Street (Hobson Avenue)

NYCDEP has two water mains in 43rd Street. There is an existing 12” diameter water main as well as an existing 20” diameter water main which goes from 56th Road to the end of the project limits, near 54th Avenue.

The noted 20” diameter water main will remain unaffected during construction of this project. The only work anticipated for the existing 12” diameter main is a new connection at the intersection of 55th Avenue and 43rd Street.

56th Road

NYCDEP has an existing 12” diameter water main in 56th Road. This water main is feed from the 20” diameter water main located in 43rd Street by a reducer in the intersection of 56th Road and 43rd Street. This water main continues up to the intersection of Laurel Hill Boulevard and 56th Road, and then out of the project limits. There is one fire hydrant located on the south side of 56th Road, numbered 98.

Under this bridge reconstruction project, a segment of the existing 12” diameter water main will be replaced from the intersection area of Laurel Hill Boulevard and 56th Road, south under the proposed BQE structures and will tie into the existing water main outside the bridge project limits.

55th Avenue

NYCDEP has an 8” diameter water line which extends along 55th Avenue from 43rd Street. This 8” diameter pipe is serviced by a 12” diameter water main running parallel to 43rd Street. There is a fire hydrant located at the end of this pipe and the hydrant’s number is #116.

Under this bridge reconstruction project, a small section of this 8” diameter water main will be replaced and capped in 55th Avenue due to the construction of new bridge footings. A new fire hydrant will be installed along 55th Avenue.

54th Drive

NYCDEP does not have existing water services in 54th Drive from 43rd Street to the project limits.

Currently, there are no existing NYCDEP water mains present in 54th Drive. Therefore, no work will be anticipated under this bridge reconstruction project.

54th Road

NYCDEP does not have existing water services in 54th Road from 43rd Street to the project limits.

Currently, there are no existing NYCDEP water mains present in 54th Road. Therefore, no work will be anticipated under this bridge reconstruction project.
54th Avenue

NYCDEP has an existing 20” diameter water main which starts outside the current project limits and heads west toward Laurel Hill Boulevard. This water main is connected to the existing 12” diameter water main located in 43rd Street, the existing 20” water main in 43rd street, and finally the 12” diameter water main located in Laurel Hill Boulevard.

Under this bridge reconstruction project, the segment of the 20” diameter water main will be replaced from the intersection of 43rd Street and 54th Avenue, heading west until Laurel Hill Boulevard. A segment of 20” water main and the transitional segment to the 12” water main in Laurel Hill Boulevard will be replaced under this project. The limits of 20” water main replacement will extend from approximately 54th Avenue to the Long Island Expressway (LIE) where it will tie into the existing main.

Laurel Hill Boulevard

In Laurel Hill Boulevard NYCDEP has an existing 12” diameter water main which runs from 56th Road to 54th Avenue in Queens. The water main is located on the east side of the roadway. According to NYCDEP plates there is one fire hydrant #117, near 55th Avenue from this main. In the intersection of Laurel Hill Boulevard and 54th Avenue the 12” diameter water main connects to a 20” diameter water main and then this line continues north along Laurel Hill Boulevard. There are several fire hydrants located along this leg, including hydrant #12 and 21. There is also, a service connection to Calvary Cemetery from this 20” diameter main. The 20” water main continues down Laurel Hill Boulevard adjacent to the cemetery until its intersection with the South Service Road, near the Long Island Expressway (LIE) and out of the project limits.

Once the reconstruction scheme has been developed, the above stated utility relocation work will be performed by the State’s Design Build Contractor at no cost to the NYCDEP.
II. **Financial Responsibility** (check appropriate boxes):

- □ The facilities to be adjusted under the terms of this agreement are subject to Section 52 of the State Highway Law, and the cost of this adjustment is the sole responsibility of the owner.

- □ Subdivision 24 of Section 10 of the State Highway Law enables the Commissioner of Transportation to provide at the expense of the State, for adjustment to a municipally owned utility when such work is necessary as a result of State highway work. (Municipal Agreement required.)

- ☒ Subdivision 24-b of Section 10 of the State Highway Law enables the Commissioner of Transportation to participate in the necessary expenses incurred for adjustment of privately, publicly or cooperatively owned facilities, municipal utility facilities, or facilities of a corporation organized pursuant to the State Transportation Corporations Law. (Privately Owned Property Agreement or Reimbursement Agreement required.)

- □ Subdivision 27 of Section 10 of the State Highway Law enables the Commissioner of Transportation, upon the request of a municipality, to perform for and at the expense of such municipality specified work to be included within a State-let contract. (Betterment Resolution required.)

- □ Subdivision 33 of Section 10 of the State Highway Law enables the Commissioner of Transportation, upon the request of a public utility corporation, to perform for and at the expense of such public utility corporation specified work to be included within a State-let contract.

- □ Subdivision 13 of Section 30 of the State Highway Law enables the Commissioner of Transportation to enter into an agreement to reimburse with public funds the owner for necessary expenses incurred as a result of this adjustment, or to replace the facilities in kind.

- ☒ The owner will develop and keep a record of costs in accordance with the New York State Department of Transportation (NYSDOT) Reimbursement Procedures, and when federal funds participate in the cost, the Federal Highway Administration (FHWA) Federal-Aid Policy Guide Part 645, or as indicated below:

Reimbursed under Highway Law 10-24-b as an Interstate Project.
III. Physical Adjustment Method (check appropriate boxes):

The actual adjustment or design engineering will be performed by the following method (s):

- Contract let by the Commissioner.

- Contract let by the Owner, (check applicable statement, i.e., a or b)
  - Best Interests of State.
  - Utility not sufficiently staffed or equipped.

- By the Owner’s forces. (Inspection only)

IV. Betterment, Salvage, and Depreciation Credits Due the Project (check appropriate boxes):

- There will be no extension of service life, improved capacity nor any other betterment of the facility (as defined by the NYSDOT Utility Reimbursement Procedures and by FHWA Federal-Aid Policy Guide Part 645) as a result of the adjustments made pursuant to this agreement.

- There is betterment described as follows:
  - The owner will not claim reimbursement for that betterment portion of the work, but will duly account for it as required by applicable NYSDOT and FHWA procedures.
  - The owner hereby agrees to deposit with the Comptroller of the State of New York the amount of $____________ to cover the cost of the betterment as described above.
  - The owner agrees to comply with the requirements of the NYSDOT Utility Reimbursement Procedure and FHWA Federal-Aid Policy Guide Part 645 with the respect to salvage and depreciation credits when applicable.

V. General Covenants

The owner hereby agrees to accept full title and responsibility for the adjusted facility in writing upon satisfactory completion of the work. Such acceptance will acknowledge the owner’s responsibility to maintain the facility in accordance with all applicable codes, standards and regulations, including his obligation, where applicable, to remove any or all of the facility from the highway at the order of the Commissioner of Transportation, all in accordance with the Rules and Regulations Governing the Accommodation of Utilities within the State Highway Right-of-Way. All compensable claims covered by this agreement will be included in one of the following:

- Privately Owned Property Agreement executed prior to the performance of the work.
- Municipal Agreement executed prior to performance of the work.
- Reimbursement Agreement executed prior to performance of the work.
- Such other agreement as approved by NYSDOT Office of Legal Affairs.
VI. References

The following documents are herewith incorporated in this agreement be reference (check appropriate boxes)


☒ Contract documents:  Contract number D900011
Pin X729.77
Plan sheets No. TBD

☐ Owner’s plan sheets __________________________________________

☐ Owner’s estimate sheets form No. ________________________________

☐ Resolution dated _________________ , by ________________________
  ☐ Granting the State of New York authority to perform the adjustment for the owner.
  ☐ Agreeing to maintain facilities adjusted via State-let contract.
  ☐ Authorizing deposit of funds by the owner.

☐ Certification by the owner or his agent that he has the legal authority to enter into this agreement.

___________________________________________________Utilities Engineer_________________
For NYSDOT Commissioner of Transportation

(Print/Type Name)Owner or Agent    (Signature)    Title    Date