DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION
ADMINISTRATION BUILDING
110 WOOD & GROVE STREETS
MORRISVILLE, PA 19067

CONTRACT NO. T/TS-556A, CAPITAL PROJECT 0925A
BRIDGE MONITORING SYSTEM – SELECT BRIDGES

ADDENDUM NO. 1

This **Addendum No. 1** gives additional information in connection with **Contract No. T/TS-556A, Capital Project 0925A, Bridge Monitoring System – Select Bridges** and is hereby made a part of the Contract. This Addendum is to be signed by the Contractor below and this **Page AD1-1** is to be attached to the bid proposal.

This Addendum including pages **AD1-1** through **AD1-8** is hereby accepted and agreed that it shall become part of **Contract No. T/TS-556A, Capital Project 0925A** Documents.

_____ _____
(DATE) (CONTRACTOR'S NAME)

(SEAL) BY: _____

ATTEST: _____

ADDENDUM NO. 1

A. CHANGES TO THE NOTICE TO CONTRACTORS

1. The date of the sealed bids receipt and public opening has been changed from August 22, 2018 until **2:00 PM (Local Time), Thursday, September 6, 2018.**
2. An addendum containing changes to the plans and specifications and also addressing inquiries received to date will be issued by August 20, 2018. Additional inquiries will be accepted until 4:00 PM Thursday, August 23, 2018. Responses will be issued by August 28, 2018.

B. CHANGES TO THE PROPOSAL

1. On page A-2 the date of the sealed bids receipt and public opening has been changed from August 22, 2018 until **2:00 PM (Local Time), Thursday, September 6, 2018.**

C. RESPONSES TO INQUIRIES

Responses included herein are to Inquiries received by the Commission by Thursday, August 2, 2018 close of business.

Inquiry 1: While attempting to get an estimate on several items in the Video Surveillance System of the special provisions (SP 100), there was some confusion on the details on several items. For the Bosch 500i series PTZ camera there is no specific product number. This is the same with the Bosch Dinion IP Starlight 800mp camera.

Response 1: The 500i series camera has been replaced by the 5000i model, the model number is NDP-5502-Z30. The 8000MP Dinion model number is NBN-800052-BA.

Inquiry 2: Also in regards to the fiber optic video receiver card is it receiving IP video? Analog video? What transmitter is being used? Is it multimode fiber? Single Mode Fiber?

Response 2: IP Video, Bosch transmitters and Multimode fiber as per specifications 9000-5010.

Inquiry 3: We noticed that you have specified equipment for the bridge monitoring project. Are you open to alternate equipment?

Response 3: The project will entertain alternate equipment noting that the contractor is responsible for any associated design changes and will need to document and clearly establish that the substitution is equal or better than the specified equipment.

Inquiry 4: In the specialty items listed on page 2 and 3, item number 21 requested for Loggernet Software. Out of curiosity, is this version of data management software required, or could we supply a comparable software to what was requested?

Response 4: Loggernet was specified due to its simplicity and ease of use. The bidder may propose using their own software suite for data acquisition, control, and data analysis/display but must demonstrate its functionality is equal to that of Loggernet.

Inquiry 5: Who has your current ESS maintenance contract and what is their contact information?

Response 5: The ESS maintenance contract is currently under procurement. This information will be supplied to the winning contractor.

Inquiry 6: Which type of conduit (GRS or FRE) is used for the strain gauge cables on the bridge?
Response 6: Galvanized Rigid Steel (GRS) as per plans.

Inquiry 7: It was mentioned in the pre-bid meeting that the strain monitoring system would be used to identify weights of over-sized trucks crossing the structures if they did not heed the to-be-installed oversize- truck deterrent system. The system design as-is will not provide that ability since measurements are only made once per five minutes. Can the Commission clarify whether the intent of the monitoring system is to capture:

a. High-speed, live-load related response
b. Slow-speed, static responses
c. Both high-speed live-load responses and slow-speed static response

Response 7: This inquiry will be responded to in a future in addendum.

Inquiry 8: Both the contract drawings and specifications largely specify Campbell Scientific dataloggers. Will the Commission consider alternative data acquisition hardware if the minimum required specifications are met or exceeded?

Response 8: If the specifications of the alternative dataloggers meet or exceed the specifications of the Campbell Scientific dataloggers and they can read vibrating wire strain gages, then the alternative dataloggers may be used. A comparison of specifications shall be submitted for review and approval.

Inquiry 9: Both the contract drawings and specifications specify vibrating wire type strain gages. Will the Commission consider alternative strain gage types if we are able to demonstrate their performance meets or exceeds those of the vibrating wire type sensors?

Response 9: Weldable vibrating wire type strain gages were chosen for their long-term stability and performance; therefore, weldable vibrating wire strain gages should be used.

<u>Contract Drawing Sheets 3-4 of 53 Questions.</u>

Inquiry 10: It appears that the row corresponding to Milford-Montague is missing entries in the table. Are these intended to be quantity zero items?

Response 10: Entries on the Tabulation of Quantities sheet that are left blank are intended to be a quantity of zero. However, Loggernet Software is required at the Milford Montague Bridge. Only one license is required to be purchased for use at the six bridges.

Inquiry 11: Milford Montague does not have a unit quantity for LoggerNet software.

Response 11: Loggernet Software is required at the Milford Montague Bridge. Only one license is required to be purchased for use at the six bridges.

Inquiry 12: Is the Contractor required to purchase five licenses for LoggerNet?

Response 12: The Loggernet software is a single license and will be used for all 6 bridges. Only one license for Loggernet is required since the systems will be integrated into the Commissions Enterprise Network and Loggernet can control and collect data from multiple data acquisition units

Inquiry 13: Column 4 description is "Strain Gage Wire AM 16-32B". AM 16-32B is a model number for a Campbell Scientific product, is that intended to be in this description? Will alternative products be considered?

Response 13: Column header should be "Strain Gage Wire" AM16-32B should not be in the description and will be reflected in a future addendum.

Contract Drawing Sheet 39 of 53 Installation Notes Questions.

Inquiry 14: Spot welding is mentioned as the attachment means for the strain gages. However, there is no suggested or preferred specification on the spot welder itself. In our extensive experience of applying strain gages to bridges using a spot weld technique, we utilize a capacitive discharge spot welder specifically manufactured for strain gage bonding to ensure a proper application.

Response 14: In the specifications, capacitive discharge welding is specified for installation of the strain gages. Specific welders are available on the market for this purpose. The following two manufacturers sell capacitive discharge welders for installing strain gages:

http://www.vishaypg.com/micro-measurements/instruments/700-list/

https://sunstonewelders.com/

Contract Drawing Sheet 39 of 53 Corrosion Protection Note 4 Questions

Inquiry 15: Are there specifications for the paint we should be meeting? Type, color, number of coats, etc.? Sheet 41 of 53. Note 1.

Response 15: Standard PENNDOT specification 1071 covers this,

Inquiry 16: The drawing shows two gages per lower chord while the note references four gages. Please advise as to which is correct.

Response 16: Two gages are the correct quantity.

Inquiry 17: Can typical sections be provided for all six of the bridges in terms of strain gage locations? For example, Sheet 47 of 53 does not have typical sections for the instrumented members.

Response 17: Typical sections will not be provided.

Specification Item No. 9000-0015, 0016, 0017, 0018, 0021 – Strain Monitoring System Installation Question

Inquiry 18: 1.02.A.5 – To what criteria will the Engineer evaluate the initial readings for acceptance?

Response 18: Contractor is responsible for demonstrating the gages are functional and operating within the range specified by the manufacturer.

Inquiry 19: 1.02.C.6. – Will the Commission consider the use of powder-coated aluminum

enclosures, provided they meet or exceed the current specifications?

Response 19: No.

Inquiry 20: 1.02.C.12. – Does the Commission have a standardized master key for all locks at their facilities? Is the bidder responsible for providing locks for each enclosure across all structures that use the same key?

Response 20: The contractor shall supply all enclosures with locks involving one master key.

Inquiry 21: 1.02.D.8. – Will the Commission coordinate the expansion of their current mobile carrier plan for the six cellular modems needed for this project and provide the Contractor with the requisite IT information needed for system commissioning?

Response 21: Cellular modems are not being used. Dataloggers will be connected directly to the Commission's network via ethernet.

Inquiry 22: 1.03.B. – Are there specific requirements that the Commission is expecting to see in terms of hardware manufacturers having demonstrated experience on bridges? Must the system installers also have demonstrated experience on bridges, such as using the attachment means specified herein?

Response 22: All Contractors or subcontractors must be qualified in the work that they are performing**.**

Inquiry 23: 1.03.D. – Is the Contractor responsible for planning and executing the load test on each bridge as part of this Contract?

Response 23: The Contractor shall be present during the load test to verify the system is functioning as intended.

Inquiry 24: 1.03.D. – Is the Contractor responsible for providing the loaded vehicle, traffic control, and other required components of a load test?

Response 24: The Commission will supply the vehicles and traffic control for the load test.

Inquiry 25: 1.03.E. – Is the Contractor responsible for identifying the alerting protocols and thresholds?

Response 25: No.

<u>Additional Questions</u>

Inquiry 26: Key Notes on various Contract Drawings indicate that 2" FRE Trunk Line is to be installed UNDER THE DECK. Contract drawings Sheet 35 Detail 2 shows the conduit on the back side of the guide rail. In order to install conduit under the bridge deck, a temporary scaffold system will need to be designed and installed. Please clarify the intend location of the new conduit and confirm the intent.

Response 26: The intended location is adjacent to the existing trunk line, the majority of which route along bridge members, with some portions below the deck. The contractor has the option to route the conduit below the deck so long as the conduit is not the lowest object on the bridge.

Inquiry 27: Page SP32 indicates that "Boat traffic and pedestrian traffic in the areas of construction shall be stopped prior to performing work associated with containment and shielding installation, modification, movement, and removal within the portions of the Bridge by erecting signs on the upstream and downstream sides of the superstructure and along the tow paths to prevent boat and pedestrian traffic during active construction. Separate payment for these signs will not be made but will be incidental to this pay item. Temporary shielding and containment shall be installed and approved prior to beginning work to prevent debris from falling into the river or canal, or onto the land below the bridge. All signs designated as Sign "B" shall be supported from the parapets and shall be placed outside the area of Zone Painting to permit placement of scaffolding and containment. The support system for the signs shall be designed and detailed by the Contractor and submitted to the Engineer for approval prior to construction. A schematic of the support system has been included on the plans." Other than this generic statement quoted above, we see no other contract requirement for "containment" or "shielding", Please confirm if shielding is required or not.

Response 27: The intent is to protect pedestrian and boat traffic from falling debris during the installation of bridge mounted cameras, digital message signs, flashing beacon signs, conduits, etc. The type and location of the proposed temporary containment/shielding are to be submitted for approval prior to construction. The cost of temporary containment/shielding is to be included in the Bid Item 0901-0001: Maintenance and Protection of Traffic During Construction.

Inquiry 28: Bid item 951-0110 TRAFFIC SIGNAL SUPPORT, 10' MAST ARM does not show on any of the plan sheets. We do see a "TRAFFIC SIGNAL SUPPORT H=20' at (10) locations.

a. Please either clarify the pay item or the work required.
b. Additionally, Sheet 37 and 38 detail this pole to some extent, however, there is no "mast arm" shown. Please confirm it it's not required.

Response 28: a) Bid item 951-0110 TRAFFIC SIGNAL SUPPORT, 10' MAST ARM is the same item shown on the plan sheets labeled TRAFFIC SIGNAL SUPPORT H=20'.
b) There are no mast arms to be installed as part of this project, just the vertical support pole.

Inquiry 29: Bid item 951-0110 TRAFFIC SIGNAL SUPPORT, 10' MAST ARM and Bid item 0951-4014, TRAFFIC SIGNAL SUPPORT, 14' PEDESTAL, bot show and require a foundation as shown on the various plan sheets.

a. Please provide details of the foundations required for each.
b. Please confirm if we are to include the cost of the foundation with the cost of the pole, or id a separate pay item will be added.

Response 29: a) Bid items 951-0110 and 951-4014 both require a foundation. See PENNDOT standard details TC-8801 for Foundation Type A requirements for each item.
b) The cost of the foundation is to be included in items 951-0110 and 951-4014.

Inquiry 30: Please provide a size for BID Item 9000-0014: HANDHOLE. (Note the specs indicate the construction features, but no size is indicated)

Response 30: Refer to PENNDOT Standard TC-8804, Junction Box Type JB-27 for handhole details.

Inquiry 31: The contract has (2) Items for CAMERA JUNCTION BOX-1 and CAMERA JUNCTION BOX-2:

a. Is there a spec?
b. What is the difference between a "-1" and a "-2"?

Response 31: a) See Sheet 5 of 53 note 11 for camera junction box information, see spec section 9000-5010 for enclosure type.
b) As per symbols CJB-1 serves only one camera, where CJB-2 serves two cameras.

Inquiry 32: There are other junction boxes specified on the plans that are not qualified or quantified as JBF-1 or JBF-2.

a. Are these Junction Boxes to be paid for under Item 9000-020 JUNCTION BOX, TYPE NEMA 4X?
b. Are these simply to be sized per code, or is there a minimum size required?
c. It is noted that the bid quantity of this item is 96, which seems excessive considering what is show in the plans. Is there a reason for this?

Response 32: a) Yes; b) Sized as required by Code; c) As the number, location and placement of junction boxes is determined in the field, this number provides an estimated quantity.

Inquiry 33: It is noted that the quantity of Ground rods (Item 9000-0024) aligns with the quantity of traffic signal poles, and a ground rod is required for each and every pole per Sheet 38 of the plans. Please confirm that the ground rods required for the traffic signal poles will be paid via this item.

Response 33: Ground rods are required for each traffic signal pole and should be paid via this item.

Inquiry 34: Contract Drawing Sheet 7 and 9 call for a SS NEMA 4X Disconnect Switch for Detector DT-02 and Camera CB114. The contract does not detail this requirement for any other camera or detector for any other location. Please confirm these devices are the only that requires a Disconnect Switch.

Response 34: The disconnect switch is not required for detector DT-02 and camera CB114.

Inquiry 35: Contract Drawing Sheet 6 specifies camera NHST-115 to be a Pole Mounted PTZ Camera. Sheet 18 shows Camera NHST 15 as a Bridge mount. Additionally, comparing this camera to the other bridges / locations, we believe this camera is a fixed type, not a PTZ. Please advise.

Response 35: Camera NHST-115 is the fixed type as per sheet 18.

Inquiry 36: Contract Item 1090-0601 CLASS AA Cement Concrete Repairs: Where is this work shown on the plans? Wat is Class AA Concrete? Please provide a specification that details the work required.

Response 36: This work is included under trench repairs see section 954.3 (a) on page SP-125 of the specification. Item 1090-0601 is a standard PENNDOT item.

Inquiry 37: Contract Item 9000-0031 Full depth Asphalt Pavement Repairs: Where is this work shown on the plans?

Response 37: This work is included under trench repairs see section 954.3 (a) on page SP-125 of the specification.

END OF ADDENDUM NO. 1