ECMS Highway Construction

Contract: 109816

Grannas Bros. Stone & Asphalt Co., Inc. XX-XXXXXXX

Hollidaysburg

814-695-5021 (phone)

814-696-0910 (fax)

sgrannas@grannasbros.com

Prime Business Partner

Bedford County

SR 99, Section 013

Turnpike to Sproul/Claysburg

Location

T091-050-Z001

X091-161-ZS30

Federal Project

P-100099T7013-0910-373-1

P-100099T7023-0920-373-1

P-10009907013-0910-373-1

P-200220T7012-0910-373-1

WBS Element

August 6, 2020

Bid Opening

TABLE OF CONTENTS

Contract

Addendum issued subsequent to the printed proposal have been incorporated into the text of this contract and the modified portions are annotated in the contract - e.g., A1, A2 etc.

Incorporated Addenda are As follows:

Addendum No. 1, **A1,** dated 07/24/2020

Addendum No. 2, **A2,** dated 07/31/2020

Addendum No. 3, **A3,** dated 08/03/2020

THIS AGREEMENT, Made this *25* day of *August* A.D. *2020*, between the Commonwealth of Pennsylvania by the Secretary of Transportation, hereinafter called the Department and *Grannas Bros. Stone & Asphalt Co., Inc.* its executors, administrators, successors, or assigns, hereinafter called the Contractor.

W I T N E S S E T H:

1. The Contractor, for and in consideration of the payment or payments herein specified and agreed to by the Department, hereby covenants and agrees to furnish and deliver all the materials and to do and perform all the work and labor in the improvement of a certain section of highway at the unit prices bid by said Contractor for the respective estimated quantities aggregating approximately the sum of *$9,278,657.87* and such other items as are mentioned in the Contractor\'s original proposal, which proposal and prices named, together with Publication 408/2020-IE - Specifications (as specified in the proposal), are made a part of this contract and accepted as such, also the drawings of the project, prepared and/or approved by the Department of Transportation, which drawings are also agreed by each party as being a part hereof.

2. The description and location of the project is as follows:
This project is for the pavement preservation of approximately 31.5 miles of SR 0220, I-99, Ramps 8007,8009,8011 & 8013 in Bedford and Blair Counties. Work includes 1  thin overlay wearing course, concrete pavement patching, rumble strips, guide rail and drainage upgrades, cable medina barrier, pavement markings and other miscellaneous construction, as indicated on the approved drawings included in the bid package for STATE ROUTE 0099, SECTION 012, in BEDFORD COUNTY, BEDFORD, EAST ST. CLAIR, KING, KIMMEL & GREENFIELD TOWNSHIPS at the locations indicated on the plans in the bid package.

3. The Contractor further covenants and agrees that all work shall be performed in the best and most professional manner. The Contractor also agrees that all materials furnished and labor performed shall be in strict and complete conformity, in every respect, with all parts of this contract and shall be subject to the inspection and acceptance of authorized representatives of the Department of Transportation. In the event that any portion of work (including materials supplied pursuant thereto) performed by the Contractor is rejected by

the Department's authorized representatives as defective, unsuitable, or unacceptable, the Contractor agrees to remove and replace all such rejected portions of work in conformance with this contract and to the satisfaction of and at no expense to the Department. The Contractor further covenants that prompt payment will be made in full for all labor and materials used in the performance of work on this project.

4. The Contractor covenants and agrees that all work (including, but not limited to, all labor performed and all materials supplied) on this project shall be performed and completed to the satisfaction of the Secretary of the Department of Transportation or the Secretary\'s representative on or before the expiration date of *08/08/2022*. If, for any reason, except as provided in the contract, the Contractor fails to complete all work on this project to the satisfaction of the Secretary or the Secretary\'s representative within the aforementioned time allowed, the Department shall deduct from any sums due or which may become due the Contractor the amount indicated in the Specifications for each calendar day used in excess of the aforementioned number of days allowed, or, in case a completion date is fixed, for each calendar day elapsing between that completion date and the actual date of completion. If no sums are due the Contractor, the Contractor agrees to remit to the Department the aforementioned sum for each day used in excess of the time allowed for completion of the contract. The amounts deducted or remitted under this paragraph are liquidated damages and not penalties.

5. The Contractor further covenants and warrants that it has had sufficient time to examine and has examined the site of the contract work to ascertain for itself those conditions such as may be determined by inspection, investigation, and inquiry, including the location, accessibility, and general character of the site.

6. The Contractor further covenants that it has not relied upon any information provided by the Department, including information contained in the Special Provisions, concerning the time within which publicly or privately-owned facilities below, at or above the ground are expected to be installed, removed, repaired, replaced, and/or relocated; that the Contractor has not relied upon any information provided by the Department concerning the location or existence of all such facilities that might be below, at or above the ground; that the Contractor has contacted or will contact all owner of such facilities to verify the location and position of all such facilities and the time within which work on such facilities will be performed; and that the Contractor is aware delays might be incurred in the performance of work on this project as a result of work being performed or that will be performed on such facilities by their owners. It is understood further that, notwithstanding assistance of any kind and extent that might be provided by the Department, the Contractor, in every instance, bears the ultimate responsibility of resolving all disputes of every kind with the owners of such facilities. The Contractor agrees to save and hold the Department harmless from liability for all delays, interference and interruptions that might arise during the performance of work on this project as a result of work being or that will be performed on such publicly or privately-owned facilities.

7. The Contractor further covenants and warrants that it has read, is completely familiar with and understands thoroughly the General Conditions; the Specifications of the Commonwealth of Pennsylvania, Department of Transportation, currently in effect; the Supplements, Special Provisions and/or Conditions; and any other addenda or requirements, contained in the governing the performance of work under this contract, whether attached hereto and made a part hereof, or incorporated herein by reference.

8. It is distinctly understood and agreed that the Contractor shall not do any work (including, but not limited to, the supply of labor and/or materials) not covered by the Specifications and the contract, unless such work has been authorized in writing as provided in the Specifications. In no event shall the Contractor incur any liability by reason of refusing to obey any verbal directions or instructions that the Contractor might be given to perform additional or extra work. Likewise, the Department will not be liable for any work performed as additional or extra work, unless such work is required of the Contractor in writing as provided in the Specifications. All such work which might have been performed by the Contractor without such written order

first being given shall be at the Contractor's risk, cost, and expense, and the Contractor hereby covenants and agrees that, without such written order, the Contractor shall make no claim for compensation for such unauthorized work.

9. It is further distinctly agreed that the Contractor shall not assign this contract, nor any part thereof, nor any right to any sums to be paid the Contractor hereunder, nor shall any part of the work to be done or material furnished under this contract be sublet, without the consent in writing of the Secretary of Transportation.

10. It is also agreed and understood that the acceptance of the final payment by the Contractor shall be considered as a release in full of all claims against the Commonwealth of Pennsylvania arising out of, or by reason of, the work done and materials furnished under this contract.

11. The Contractor shall accept, in so far as the work covered by the contract is concerned, the provisions of the Workers Compensation Act, and any supplements or amendments thereto, and shall insure its liability thereunder or file with the Department of Transportation a certificate of exemption from insurance from the Bureau of Workers\' Compensation of the Department of Labor and Industry.

12. In order to secure proper and complete compliance with the terms and provisions of this contract, the Contractor shall provide a bond in a sum equal to one hundred percent (100%) of the total contract price of the work to be done. The Contractor shall also secure an additional bond in the same amount for the prompt payment in full for all labor and materials supplied in performing work on this project. Both bonds are attached to and made a part of this contract.

13. Claims arising out of disputes pertaining to this contract shall be subject to the exclusive jurisdiction of the Board of Claims in accordance with Section 1724(a)(1) of the Commonwealth Procurement Code, 62 Pa. C.S. § 1724(a)(1).

14. The Contractor hereby further agrees to receive and the Commonwealth agrees to pay the prices set forth in the linked bid items as full compensation for furnishing all the materials and labor which may be required in the prosecution and completion of all work to be done under this contract, and in all respects to complete the contract to the satisfaction of the Secretary of Transportation.

15. The Contractor certified in its bid submission (covering federal aid projects only) to the disclosure of lobbying activities and, if applicable, completed the disclosure form and by said certification understands that Public Law 101-121, Section 319, prohibits federal funds from being expended by recipient or any lower tier sub-recipients of a federal contract, grant, loan or cooperative agreement to pay any person for influencing or attempting to influence a federal agency or Congress in connection with the awarding of any federal contract, the making of any federal grant or loan, or the entering into of any cooperative agreement.

16. If federal funds are involved, the Contractor shall not discriminate on the basis of race, color, national origin or sex in the performance of this contract. The Contractor shall carry out applicable requirements of 49 C.F.R. Part 26, in the award and administration of United States Department of Transportation assisted contracts. Failure by the Contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the Department deems appropriate, which may include, but is not limited to: (1) withholding monthly progress reports; (2) assessing sanctions; (3) liquidated damages; and/or (4) disqualifying the contractor from future bidding as non-responsible. The Contractor must include this assurance in each subcontract that the Contractor signs with a subcontractor.

Fiscal Information:

Recorded Number: 109816

Certified Fund Available Under Activity Program: 373

Symbol: 010-008-10581-20/21/22-1

Amount: $9,278,657.87

Contract Workflow Status

Status	Name	Disposition	Date/Time
Draft	Lynn A Phillips/PennDOT	Award	08/12/2020 10:22:31 AM
Contractor Review	Scott Grannas/PennDOT BP-005263	Sign	08/17/2020 10:41:34 AM
BOD CMD Review	Roland L Rode/PennDOT	Accept	08/24/2020 11:35:35 AM
BOD Director Review	Christine Reilly/PennDOT	Sign	08/24/2020 11:40:39 AM
Chief Counsel Preliminary Review	Temitope O Quadri/PennDOT	Accept	08/24/2020 03:48:26 PM
Chief Counsel Final Review	Jeffrey M Spotts/PennDOT	Accept	08/24/2020 04:33:38 PM
Comptroller Review	Karen Leavitt/PennDOT	Accept	08/25/2020 08:44:14 AM
CMD Execute	Douglas A Nace/PennDOT	Submit	08/25/2020 09:41:54 AM

Addenda

Addendum: 1

Description:

This project is for the pavement preservation of approximately 31.5 miles of SR 0220, I-99, Ramps 8007,8009,8011 & 8013 in Bedford and Blair Counties. Work includes 1” thin overlay wearing course, concrete pavement patching, rumble strips, guide rail and drainage upgrades, cable medina barrier, pavement markings and other miscellaneous construction, as indicated on the approved drawings included in the bid package for STATE ROUTE 0099, SECTION 012, in BEDFORD COUNTY, BEDFORD, EAST ST. CLAIR, KING, KIMMEL & GREENFIELD TOWNSHIPS at the locations indicated on the plans in the bid package.

Estimated Project:	$9,655,797.26
Federal Project Status:	PENNDOT Oversight NHS
DBE:	10.00%
Structure Work:	0.00%
Wage Rates:	Yes
Project Type:	Standard
State Type of Work:	RESURFACING/OVERLAYS
Prequalification Required:	Yes
Pre-Bid Meeting:	None
Scheduled Let:	08/06/2020 11:00:00 AM
New Let:	
Let Date Move:	
Anticipated NTP:	09/21/2020
Required Completion:	08/08/2022

Additional Information

This is an ECMS project. All Addenda will be electronically posted.

The location of the public bid opening is the Commonwealth Keystone Building, 7th Floor, Contract Awards Room, 400 North Street, Harrisburg. Allow sufficient time before the bid opening to obtain a visitor pass on the 5th Floor and to be escorted to the 7th Floor Contract Awards Room.

Item and Quantity

Remove Item 0203-0001.
Modify Item 0516-0210.
Add Item 0516-2007.
Add Item 0516-2008.

Special Provision

Remove Special Provision Titled "a00001 Supplemental COVID-19 Safety Plan Implementation" Version C.
Add Special Provision Titled "a00001 Supplemental COVID-19 Safety Plan Implementation" Version D.

Other

Modify Federal Wage Rate.
Replace Roadway Plan Sheets 10,11,14,15,16,17 & 17A of 66.

Addendum: 2

Description:

This project is for the pavement preservation of approximately 31.5 miles of SR 0220, I-99, Ramps 8007,8009,8011 & 8013 in Bedford and Blair Counties. Work includes 1” thin overlay wearing course, concrete pavement patching, rumble strips, guide rail and drainage upgrades, cable medina barrier, pavement markings and other miscellaneous construction, as indicated on the approved drawings included in the bid package for STATE ROUTE 0099, SECTION 012, in BEDFORD COUNTY, BEDFORD, EAST ST. CLAIR, KING, KIMMEL & GREENFIELD TOWNSHIPS at the locations indicated on the plans in the bid package.

Estimated Project:	$9,859,262.26
Federal Project Status:	PENNDOT Oversight NHS
DBE:	10.00%
Structure Work:	0.00%
Wage Rates:	Yes
Project Type:	Standard
State Type of Work:	RESURFACING/OVERLAYS
Prequalification Required:	Yes
Pre-Bid Meeting:	None
Scheduled Let:	08/06/2020 11:00:00 AM
New Let:	
Let Date Move:	
Anticipated NTP:	09/21/2020
Required Completion:	08/08/2022

Additional Information

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The location of the public bid opening is the Commonwealth Keystone Building, 7th Floor, Contract Awards Room, 400 North Street, Harrisburg. Allow sufficient time before the bid opening to obtain a visitor pass on the 5th Floor and to be escorted to the 7th Floor Contract Awards Room.

Item and Quantity

Add Item 0203-0001.
Add Item 0203-0004.
Modify Item 0205-0100.
Modify Item 0516-0010.
Modify Item 0516-0110.
Add Item 0802-0001.
Modify Item 9000-0003.

Special Provision

Other

Modify Federal Wage Rate.
Replace Roadway Plan Sheets 10,11,14,15,16,17 & 21 of 66.

Addendum: 3

Description:

This project is for the pavement preservation of approximately 31.5 miles of SR 0220, I-99, Ramps 8007,8009,8011 & 8013 in Bedford and Blair Counties. Work includes 1” thin overlay wearing course, concrete pavement patching, rumble strips, guide rail and drainage upgrades, cable medina barrier, pavement markings and other miscellaneous construction, as indicated on the approved drawings included in the bid package for STATE ROUTE 0099, SECTION 012, in BEDFORD COUNTY, BEDFORD, EAST ST. CLAIR, KING, KIMMEL & GREENFIELD TOWNSHIPS at the locations indicated on the plans in the bid package.

Estimated Project:	$9,935,926.40
Federal Project Status:	PENNDOT Oversight NHS
DBE:	10.00%
Structure Work:	0.00%
Wage Rates:	Yes
Project Type:	Standard
State Type of Work:	RESURFACING/OVERLAYS
Prequalification Required:	Yes
Pre-Bid Meeting:	None
Scheduled Let:	08/06/2020 11:00:00 AM
New Let:	
Let Date Move:	
Anticipated NTP:	09/21/2020
Required Completion:	08/08/2022

Additional Information

This is an ECMS project. All Addenda will be electronically posted.

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Item and Quantity

Remove Item 0350-0106.
Add Item 0516-2021.
Modify Item 0962-1000.
Modify Item 0962-1002.
Modify Item 0962-1005.
Remove Item 9000-0003.

Special Provision

Modify Special Provision Titled "c8000 ITEM 8914-0001 DESIGN TRAFFIC CONTROL PLAN".
Remove Special Provision Titled "c9000 ITEM 9000-0003 ROADWAY BORINGS AND LABORATORY TESTING".
Modify Special Provision Titled "c9000 ITEM 9629-0001 HIGH-TENSIONED CABLE BARRIER SYSTEM".

Other

Add PDC Item Titled "Draft Special Provision for Sequential Flashing Light".
Replace Roadway Plan Sheets 8,14,15,16, & 17 of 66.

Bid Items

Item	Description	Quantity	Unit Price	Item Total	Addendum
0203-0001	CLASS 1 EXCAVATION	2,350.000	$15.00	$35,250.00	2
0203-0004	CLASS 1B EXCAVATION	365.000	$190.82	$69,649.30	2
0204-0001	CLASS 2 EXCAVATION	7.000	$133.00	$931.00	
0204-0010	CLEANING EXISTING DITCHES EXCAVATION	1,050.000	$14.20	$14,910.00	
0205-0100	FOREIGN BORROW EXCAVATION	37,696.000	$14.15	$533,398.40	2
0205-0264	SELECTED BORROW EXCAVATION ROCK, CLASS R-4	21.000	$322.00	$6,762.00	
0205-0290	SELECTED BORROW EXCAVATION, COARSE AGGREGATE, NO. 2A	1.000	$417.00	$417.00	
0206-0010	SELECT GRANULAR MATERIAL (2RC)	3,932.000	$28.30	$111,275.60	
0212-0014	GEOTEXTILE, CLASS 4, TYPE A	3,155.000	$2.75	$8,676.25	
0350-0104	SUBBASE 4" DEPTH (NO. 2A)	6,730.000	$6.45	$43,408.50	
0412-0112	SUPERPAVE ASPHALT MIXTURE DESIGN, THIN ASPHALT OVERLAY WEARING COURSE, PG 64E-22, 6.3MM MIX, 1" DEPTH, SRL-H	598,778.000	$5.06	$3,029,816.68	
0412-0113	SUPERPAVE ASPHALT MIXTURE DESIGN, THIN ASPHALT OVERLAY WEARING COURSE, PG 64E-22, 6.3MM MIX, 1" DEPTH, SRL-G	219,742.000	$4.55	$999,826.10	
0413-0258	SUPERPAVE ASPHALT MIXTURE DESIGN, WEARING COURSE, PG 64S-22, 0.3 TO < 3 MILLION ESALS, 9.5 MM MIX, SRL-L	4,527.000	$87.36	$395,478.72	
0460-0003	ASPHALT TACK COAT (NTT/CNTT)	857,544.000	$0.24	$205,810.56	
0461-0001	ASPHALT PRIME COAT	22,858.000	$1.03	$23,543.74	
0491-0014	MILLING OF ASPHALT PAVEMENT SURFACE, 2 1/2" DEPTH, MILLED MATERIAL RETAINED BY CONTRACTOR	37,845.000	$3.21	$121,482.45	
0491-0015	MILLING OF ASPHALT PAVEMENT SURFACE, 3" DEPTH, MILLED MATERIAL RETAINED BY CONTRACTOR	1,133.000	$27.71	$31,395.43	
0515-0001	SAWING AND SEALING OF ASPHALT OVERLAYS	291,875.000	$2.30	$671,312.50	
0516-0010	CONCRETE PAVEMENT PATCHING, PERPENDICULAR JOINTS, TYPE A, 10" DEPTH	2,662.000	$104.32	$277,699.84	2
0516-0110	CONCRETE PAVEMENT PATCHING, PERPENDICULAR JOINTS, TYPE B, 10" DEPTH	81.000	$200.00	$16,200.00	2
0516-0210	CONCRETE PAVEMENT PATCHING, PERPENDICULAR JOINTS, TYPE C, 10" DEPTH	206.000	$158.11	$32,570.66	1
0516-2007	PATCHING JOINT	7,686.000	$23.10	$177,546.60	1
0516-2008	NEW PAVEMENT JOINT	180.000	$16.00	$2,880.00	1
0516-2021	SUBBASE MATERIAL FOR CONCRETE PAVEMENT PATCHING	526.000	$45.00	$23,670.00	3
0591-0001	MILLING OF CEMENT CONCRETE PAVEMENT SURFACE	650.000	$7.00	$4,550.00	
0601-0315	24" THERMOPLASTIC PIPE, GROUP I, 15'-1.5' FILL	10.000	$177.00	$1,770.00	
0605-1300	CLEANING DRAINAGE STRUCTURES	55.000	$305.00	$16,775.00	
0605-2401	MANHOLE FRAME AND COVER	1.000	$1,100.00	$1,100.00	
0605-2642	TYPE D ENDWALL FOR 24" PIPE	1.000	$3,435.00	$3,435.00	
0605-2700	INLET GRATE	11.000	$600.00	$6,600.00	
0605-2730	TYPE M CONCRETE TOP UNIT AND GRATE	1.000	$1,085.00	$1,085.00	
0605-2740	TYPE S CONCRETE TOP UNIT AND GRATE	7.000	$1,085.00	$7,595.00	
0605-2850	STANDARD INLET BOX, HEIGHT < /= 10'	1.000	$3,262.00	$3,262.00	
0607-0013	REBUILT INLET BOX	48.000	$1,750.00	$84,000.00	
0608-0001	MOBILIZATION	1.000	$276,000.00	$276,000.00	
0609-0006	INSPECTOR'S FIELD OFFICE AND INSPECTION FACILITIES, TYPE A	1.000	$35,450.00	$35,450.00	
0609-0009	EQUIPMENT PACKAGE	1.000	$2,970.00	$2,970.00	
0613-0001	STONE BACKFILL FOR MISCELLANEOUS DRAINAGE	12.000	$434.40	$5,212.80	
0618-0026	CONCRETE COLLAR FOR 30" PIPE EXTENSION	1.000	$1,050.00	$1,050.00	
0619-0459	PERMANENT IMPACT ATTENUATING DEVICE, TYPE II, TEST LEVEL 3, TANGENT (MASH)	61.000	$2,520.00	$153,720.00	

0619-0744	PERMANENT IMPACT ATTENUATING DEVICE, TYPE V, TEST LEVEL 3, MASH, WIDTHS LESS THAN OR EQUAL TO 36 INCHES	1.000	$32,100.00	$32,100.00	
0620-0010	TYPICAL AND ALTERNATE CONCRETE BRIDGE BARRIER TRANSITION WITHOUT INLET PLACEMENT	2.000	$2,100.00	$4,200.00	
0620-0400	TERMINAL SECTION, SINGLE	5.000	$55.00	$275.00	
0620-0503	REMOVE EXISTING GUIDE RAIL (CONTRACTOR'S PROPERTY)	6,279.000	$2.10	$13,185.90	
0620-1600	TYPE 31-S GUIDE RAIL	4,275.000	$15.50	$66,262.50	
0620-1625	TYPE 31-SC GUIDE RAIL	25.000	$24.00	$600.00	
0620-1670	TYPE 31-STRONG POST IN-LINE ANCHOR	5.000	$1,200.00	$6,000.00	
0660-0005	MILLED ASPHALT PAVEMENT SHOULDER/GORE RUMBLE STRIPS FOR INTERSTATES, EXPRESSWAYS AND FREEWAYS	393,462.000	$0.20	$78,692.40	
0679-0210	HOLES DRILLED	8.000	$20.00	$160.00	
4679-0400	SLAB STABILIZATION, HIGH DENSITY POLYURETHANE	160.000	$7.25	$1,160.00	
0686-0040	CONSTRUCTION SURVEYING, TYPE C	1.000	$81,250.00	$81,250.00	
0689-0005	CPM SCHEDULE, WITH UPDATES	1.000	$1,850.00	$1,850.00	
0690-0002	SEMI-FORMAL FACILITATION	6,000.000	$1.00	$6,000.00	
0703-0024	NO. 2A COARSE AGGREGATE	46.000	$117.00	$5,382.00	
0802-0001	TOPSOIL FURNISHED AND PLACED	9,751.000	$30.12	$293,700.12	2
0804-0006	SEEDING AND SOIL SUPPLEMENTS - FORMULA L, INCLUDING MULCH	3,580.000	$9.28	$33,222.40	
0860-0001	INLET FILTER BAG FOR TYPE S INLET	30.000	$100.00	$3,000.00	
0867-0012	COMPOST FILTER SOCK, 12" DIAMETER	100.000	$14.00	$1,400.00	
0937-0104	GUIDE RAIL MOUNTED DELINEATOR TYPE B, (Y/B)	412.000	$11.00	$4,532.00	
0937-0106	GUIDE RAIL MOUNTED DELINEATOR TYPE B, (W/B)	507.000	$11.00	$5,577.00	
0937-0211	BARRIER MOUNTED DELINEATOR, TOP-MOUNT TYPE S, (W/B)	4.000	$22.00	$88.00	
0937-0212	BARRIER MOUNTED DELINEATOR, TOP-MOUNT TYPE S, (Y/Y)	19.000	$22.00	$418.00	
0937-0330	FLEXIBLE DELINEATOR POST, GROUND-MOUNT TYPE GM-2, WHITE POST WITH WHITE/BLANK SHEETING	25.000	$42.00	$1,050.00	
0937-0333	FLEXIBLE DELINEATOR POST, GROUND-MOUNT TYPE GM-2, YELLOW POST WITH YELLOW/BLANK SHEETING	25.000	$42.00	$1,050.00	
0937-0339	FLEXIBLE DELINEATOR POST, GROUND-MOUNT TYPE GM-2, RED POST WITH WHITE/BLANK SHEETING	29.000	$42.00	$1,218.00	
0937-0340	FLEXIBLE DELINEATOR POST, GROUND-MOUNT TYPE GM-2, RED POST WITH YELLOW/BLANK SHEETING	39.000	$42.00	$1,638.00	
0962-1000	4" WHITE WATERBORNE PAVEMENT MARKINGS	786,924.000	$0.09	$70,823.16	3
0962-1002	8" WHITE WATERBORNE PAVEMENT MARKINGS	34,780.000	$0.17	$5,912.60	3
0962-1005	4" YELLOW WATERBORNE PAVEMENT MARKINGS	786,924.000	$0.09	$70,823.16	3
0966-0014	SNOWPLOWABLE RAISED PAVEMENT MARKER TWO WAY HOLDER WITH REFLECTOR (Y/R)	63.000	$25.00	$1,575.00	
0966-0015	SNOWPLOWABLE RAISED PAVEMENT MARKER TWO WAY HOLDER WITH REFLECTOR (W/R)	491.000	$25.00	$12,275.00	
0966-0018	SNOWPLOWABLE RAISED PAVEMENT MARKER TWO WAY HOLDER WITH REFLECTOR (W/B)	526.000	$25.00	$13,150.00	
0966-0300	SNOWPLOWABLE RAISED PAVEMENT MARKER, REMOVAL WITHOUT REPLACEMENT	2,100.000	$8.15	$17,115.00	
1999-9999	TRAINEES	1,000.000	$2.00	$2,000.00	
8914-0001	DESIGN TRAFFIC CONTROL PLAN	1.000	$33,720.00	$33,720.00	
8915-0001	CONSTRUCTION OF MAINTENANCE AND PROTECTION OF TRAFFIC	1.000	$374,110.00	$374,110.00	
9000-0002	WEIGHTED SEDIMENT FILTER TUBE	312.000	$23.00	$7,176.00	
9000-0004	6" RECESSED WHITE REFLECTIVE PAVEMENT MARKING TAPE	42,450.000	$5.25	$222,862.50	
9000-0005	UTILITY TEST HOLE	5.000	$1,115.00	$5,575.00	
9000-0090	LOCATION OF UNDERGROUND HIGHWAY LIGHTING FACILITIES	15,000.000	$1.00	$15,000.00	

9629-0001	HIGH TENSIONED CABLE BARRIER SYSTEM	15,023.000	$21.00	$315,483.00
9629-0002	END ANCHOR TERMINAL, HIGH TENSIONED CABLE BARRIER SYSTEM	8.000	$3,570.00	$28,560.00

Contract Total: $9,278,657.87

Bid Total: $9,278,657.87

Special Provisions

G1D - a00001 Supplemental COVID-19 Safety Plan Implementation

Addendum: 1

Associated Item(s):

Header:
SUPPLEMENTAL COVID-19 SAFETY PLAN IMPLEMENTATION

Provision Body:

Supplemental COVID-19 Safety Plan Implementation

I. Contractors and consultants will be required to submit a Supplemental COVID-19 Safety Plan containing the following minimum items before starting/restarting construction projects:

1. Identify Designated Representative (Title and/or Name)
    a. Responsible for compliance.
    b. Identify procedure which the designated representative will implement to screen employees for potential COVID-19 exposure.
2. Personal (Employee) Responsibilities
    a. Company policy addressing mask requirements, employee hygiene, illness or COVID-19 exposure.
3. Social Distancing
4. Jobsite/Office Best Practices
    a. Project site cleaning protocol.
    b. Operation specific protocols as needed where social distancing is not feasible (i.e., Engineered solution or other methodology to comply with CDC Guidelines).
5. Managing Sick Employees
    a. Process addressing employees that develop potential COVID-19 symptoms while at work (fever, cough, shortness of breath).
    b. Process for managing employees before returning to work.
    c. Process for response to employee notifying employer of positive test result for COVID-19.
6. Material Deliveries and Anyone Entering the Jobsite
    a. Process to assure all outside vendors, suppliers, and subcontractors comply with Supplemental COVID-19 Safety Plan.
    b. Follow guidelines for delivery tickets as specified in the Fabrication, Materials, Testing and Labor Compliance Guidance section of the COVID-19 Guidance for Restarting Construction Projects document dated March 30, 2020 and revised April 24, 2020.
7. Training, Education, and Communication
    a. Process to inform and educate all employees of information contained in the Supplemental COVID-19 Safety Plan prior to restart. Include proposed training.
8. Comply with the Governor's *Guidance for Businesses in the Construction Industry Permitted to Operate During the COVID-19 Disaster Emergency*. This guidance includes but is not limited to the following:

    - Ensure workers are traveling to and from the job site separately. Wherever possible employees should not share a vehicle.
    - Identify a "Pandemic Safety Officer" for each project or work site, or, if a large-scale construction project, then for each contractor at the site. The primary responsibility of the Pandemic Safety Officer will be to convey, implement, and enforce the social distancing and other requirements of this guidance for the protection of employees, suppliers, and other personnel at the site.

9. Resources

    a. CDC, OSHA, PA Department of Health.

II. Construction Project COVID-19 Safety Guidelines are available for use in whole or in part for Contractors and Consultants (located in the ECMS File Cabinet in References tab).

III. The following entities will submit their supplemental COVID-19 Safety Plan as such:

- Contractor - PPCC (PennDOT), Kahua (PA Turnpike)
- Consultant – Via email (PennDOT), Kahua (PA Turnpike)
- Asphalt, Concrete, Aggregate Producers – submit to DME/DMM as addendum to existing QC plan.
- Fabricators and Pre-casters- submit to respective agency representative.

IV. Contractor to install "COVID-19 Safety Plan in effect" sign at project entrance and reasonable locations as agreed upon at the project site. Contractors are permitted to fabricate their own signs at project start-up until they are able to obtain fabricated signs from an approved supplier (authorization will be provided to allow payment).

V. Subcontractors are to submit their own Supplemental COVID-19 Safety Plan or follow the prime contractors COVID-19 Safety Plan.

VI. The following process will be utilized on each project to address potential noncompliance with the Supplemental COVID-19 Safety Plan:

- All employees are responsible to identify and report noncompliance to their respective designated representative.
- Designated representative for either Contractor, Department, or PA Turnpike will communicate potential noncompliance to the respective designated representative(s).
- Appropriate and prompt corrective action is expected by the appropriate designated representative.
- If appropriate and prompt corrective action is not taken, follow the partnering issue resolution escalation matrix process.
- If repetitive or blatant noncompliance occurs, either designated representative has the authority to invoke a project safety stand-down. The safety stand-down would be maintained until corrective action is taken to the satisfaction of both designated representatives.

VII. Contractors and Consultants are expected to stay informed of CDC, OSHA, and PA Department of Health (PADOH) updates regarding COVID-19.

1. PADOH Order for Businesses Permitted to Maintain In-person Operations
2. PADOH Coronavirus FAQs
3. PADOH FAQs for Businesses Operating During the COVID-19 Disaster Emergency
4. PADOH Order Requiring Universal Face Coverings

VIII. Supplemental COVID-19 safety plan implementation described by this standard special provision is part of the obligation undertaken by the Contractor pursuant to Publication 408, Section 107.08. Except to the extent, if any, explicitly provided otherwise above, it is considered incidental to all work items in the contract. Pursuant to Publication 408, Section 110.01, it is therefore not payable directly but is considered included in the contract prices for the items of work specified.

G2A - a00002 Guidelines for Occupying Facilities

Addendum:

Associated Item(s):

Header:

GUIDELINES FOR OCCUPYING FACILITIES

Provision Body:

Guidelines for Occupying Facilities

Overview:

All references to “Representative” include the Department and Consultant inspectors. The guidelines provided below are effective immediately on projects and will remain in effect until your company is notified otherwise by the Department.

- District Offices: Refer to Department document *Entering PennDOT Facilities During COVID-19 Mitigation* for entering building protocol.

- PennDOT Maintenance Facilities: Refer to Department document *Entering PennDOT Facilities During COVID-19 Mitigation* for entering building protocol.
- Keystone Building: Refer to Department document *Entering PennDOT Facilities During COVID-19 Mitigation* for entering building protocol.
- Materials Testing Lab (PennDOT): Refer to Department document *Entering PennDOT Facilities During COVID-19 Mitigation* for entering building protocol.
- Construction Project Field Offices
  Goal is to maintain social distancing per the requirements of the CDC and to reduce the spread of COVID-19 in construction project field offices. The following guidelines are offered relative to construction field offices:
    - The Representative will establish a digital log to document ingress and egress of staff accessing the field office.
    - The number of inspection staff co-locating in field offices should be minimized and conform to social distancing requirements (6 ft min. spacing). To accomplish this, the following should be considered:
        - A maximum of one individual located in each available partitioned office space. Refer to PennDOT Pub. 408 for minimum number of partitioned rooms for Field Offices Types A-C.
        - Inspection staff should avoid working in field offices. See additional information below.
        - Contractor staff and visitors are not be permitted in field offices.
    - Inspection staff should minimize time in the field office by maximizing time outdoors or utilizing vehicles (within or near to active work zones) as personal workspaces when not observing construction activities.
        - Most work can be completed in this manner with current technology that is already in use per Department policies and procedures.
        - Inspectors should follow existing Department protocols relative to maintaining safety and security when working within personal vehicles.
        - Daily field inspection assignments and construction operations should be communicated electronically or via telephone rather than reporting to the field office.
        - If Wi-Fi is needed the inspector should be able to park/sit near the field office to get signal and/or upload files from remote offsite locations at the end of the workday.
    - The use of field offices for face-to-face project meetings should be avoided.
        - Progress and other project meetings and discussions should be held outdoors and/or via phone/ video conferencing with meeting minutes documented and shared per existing requirements.
        - The number of participants in face-to-face meetings should be limited to comply with CDC/ Department recommended guidelines for maximum group sizes and social distancing.
    - Printing of documents should be minimized.
        - Documents that need to be printed or copied can be sent electronically to a designated individual already working in the field office. That individual is to handle printed materials wearing gloves and place the folder in a designated safe place near the field office entrance to transfer the materials. Printed materials can be retrieved once per day.
    - Cleaning of Field Offices
        - Contractors shall provide a daily cleaning plan/protocol for approval that complies with CDC guidelines and the following (in addition to existing requirements):
            - All work surfaces, doorknobs, light switches and commonly accessed surfaces should be disinfected
            - A record of cleaning dates/times is to be maintained.
            - Staff are to secure their work materials (including paper products or equipment) away from work surfaces and lock them up at the end of the shift so cleaning can be done without contacting paper and materials. This includes field books and project documents.
    - Additional Hygienic Materials
        - Disinfectant hand wipes/sanitizer and/or gel, along with a lined trash receptacle, should be located adjacent to field office entrance(s) and used by each individual upon each entry. Materials are to be replenished daily.
        - Staff should sanitize their equipment (computers, PPE and desks) when each shift is finished.
        - Extra (new) disposable PPE equipment including earplugs and safety glasses is to be available for staff use.

- Asphalt Facilities:
  - Maintain Healthy Business Operations
    - Facility to institute a COVID-19 Safety Plan for review and acceptance.
    - Refer to *Supplemental COVID-19 Safety Plan* special provision
    - **Identify a workplace coordinator** who will be responsible for COVID-19 issues and their impact at the workplace.
    - Institute best practices for worker safety as outline by the CDC
- Concrete Facilities:
  - Maintain Healthy Business Operations
    - Facility to institute a COVID-19 Safety Plan for review and acceptance.
    - Refer to *Supplemental COVID-19 Safety Plan* special provision.
    - **Identify a workplace coordinator** who will be responsible for COVID-19 issues and their impact at the workplace.
    - Institute best practices for workers safety as outlined by the CDC
- Aggregate Quarries:
  - Maintain Healthy Business Operations
    - Facility to institute a COVID-19 Safety Plan for review and acceptance.
    - Refer to *Supplemental COVID-19 Safety Plan* special provision
    - **Identify a workplace coordinator** who will be responsible for COVID-19 issues and their impact at the workplace.
    - Institute best practices for worker safety as outlined by the CDC
- Sanitation Facilities
  - Reference *Publication 408 Section 609.2(a) General.* Wash stations and portable sanitation facilities should be cleaned and disinfected as directed by CDC and OSHA guidelines with regards to COVID-19 practices.
    - https://www.cdc.gov/coronavirus/2019-ncov/prepare/prevention.html
    - https://www.osha.gov/Publications/OSHA3990.pdf

Refer to Department document *COVID-19 Hygiene and Cleaning Best Practices* for personal hygiene, cleaning (project office and job site), for COVID-19 best practices.

Note: PennDOT documents referenced and not included with this guidance are available for viewing in the PennDOT Project Collaboration Center (PPCC). https://ppcc.penndot.gov under References tab

G2C - a00002 PUBLIC BID OPENING LOCATION

Addendum:

Associated Item(s):

Header:

PUBLIC BID OPENING LOCATION

Provision Body:

The location of the public bid opening is being moved from the Commonwealth Keystone Building to the PennDOT Materials Testing Laboratory, 81 Lab Ln, Harrisburg Pa. 17110. Allow sufficient time before the bid opening to enter the building and be escorted to the bid opening location.

Masks are required to be worn by bid opening attendees and while in the PennDOT Materials Testing Laboratory.

Interested bidders planning to attend the public bid opening are advised to follow the Self-Monitoring and Social Distancing guidelines issued by the PA Department of Health and the Occupational Safety and Health Administration (OSHA) regarding the mitigation of the spread of Coronavirus (COVID-19).

- Self-Monitoring
  - o Cough or sneeze into your elbow.
  - o Wash hands often with soap and water for at least 20 seconds. Use an alcohol-based hand sanitizer if soap and water are not available.
  - o Avoid touching your eyes, nose and mouth with unwashed hands.
  - o Clean surfaces frequently touched
- Social Distancing: ***Staying Away*** from ***Close Contact*** in public places
  - o Limit your exposure and keep your distance (about 6 feet) from others
  - o Avoid touching others or shaking hands.

If interested bidders are experiencing illness symptoms such as fever, cough, shortness of breath, or diarrhea, they are asked not to attend the public bid opening in person. Interested bidders may designate an authorized representative to act on their behalf; this representative will need to provide satisfactory credentials showing authority to act for the interested bidder.

G3A - a00003 Implementation of Fabrication, Materials, Testing and Labor Compliance Guidance

Addendum:

Associated Item(s):

Header:

IMPLEMENTATION OF FABRICATION, MATERIALS, TESTING AND LABOR COMPLIANCE GUIDANCE

Provision Body:

Implementation of Fabrication, Materials, Testing and Labor Compliance Guidance

Overview:

All guidance provided below that deviates from contractual Publication 408, Specifications or procedures and policies contained within Publication 2, Project Office Manual (POM) have been reviewed and approved by the Federal Highway Administration for use on projects.

The guidance provided below is effective immediately on projects and will remain in effect until your company is notified otherwise by the Department.

Guidance:

All references to “Representative” include the Department and Consultant inspectors.

- **Shop Fabrication for Construction Products**
  - Shop Fabrication
    - Recommend Fabricator uses electronic delivery to transmit required documentation to the Representative. If electronic delivery can’t be done, the required documentation shall be placed in a sealed container and quarantined for 24 hours before being provided to the Representative.
    - Fabricator needs to verify that the project has been authorized to start construction and coordinate shipments of shop fabricated components to the project.
    - Recommend having pre-fabrication meetings virtually.
    - Practice social distancing best practices when stamping paperwork or structural components.

- Precast Concrete Products, Publication 145
  - Practice social distancing best practices while performing mock-up and pre/post-pour dimensional inspections.
  - When multiple Representatives are at a producer, recommend one (1) designated Representative be assigned to complete and process all TR-447s, Sample Identification Forms.
  - Recommend only the Representative handling, molding, and collecting the sample be responsible for delivery of the sample to the Laboratory Testing Section (LTS).
    - If the producer strips the forms of a sample, the sample will remain quarantined for 24 hours before being provided to the Representative.
- Fabricated Structural Steel, Publication 135
  - Practice social distancing best practices while witnessing non-destruction testing.
  - Recommend only one (1) designated Representative for each shift perform all paint testing.

- **Material Deliveries to Project Site**
  - Contractor designates one (1) individual to collect all delivery tickets.
    - Individual will be required to communicate information from the delivery tickets to the Representative.
    - Contractor to scan delivery tickets and submit to Representative through a Project Collaboration System (PCS) or Designated individual will have truck driver drop the ticket into a sealable container.
      - Tickets will remain quarantined for 24 hours before being provided to the Representative.
    - All certifications will be submitted to the Representative through a PCS.
    - No signatures or documentation on delivery tickets.
  - eTicketing
    - If eTicketing was included in the project's contract, proceed with the requirements contained within the contract.
    - Producers capable of eTicketing may elect to provide delivery tickets in this manner at no additional cost. GPS locations for delivery trucks will not be required.
  - Asphalt Delivery Tickets
    - The Representative and Contractor will discuss the process to follow for collecting and distributing delivery tickets.
    - Producer will provide at a minimum the first and last delivery ticket to the Representative electronically, so job mix formula and daily tons can be verified.
    - Representative to maintain a paving book, either hard copy or electronic, to document temperatures, yield checks, sample locations, etc. throughout the day.
  - Concrete Delivery Tickets
    - The Representative and Contractor will discuss the process to follow for collecting and distributing delivery tickets.
    - Producer will provide all batcher mixer slips and delivery tickets to the Representative electronically, so water/cement ratio can be calculated for every load before placement.
- **Calibrations at Producers**
  - Scales
    - Producer to use a certified independent 3rd party to witness and document scale calibrations.
  - Bins, Pumps, Admixtures, etc.
    - Performed by producer with signed calibration documentation.
  - Producer to email all calibration documentation to the Representative.
  - Representative could require verification of calibrations when restrictions are lifted.

- **Mix Designs**
  - Required to use 2020 designs if they are approved. If not, 2019 designs are permitted until which time the 2020 designs are approved for use.

- **Asphalt Acceptance Testing**
  - For Department projects, all acceptance testing is deferred to the LTS unless otherwise approved by the District. This can also be applicable for projects delivered using alternate methods utilizing Publication 408, Specifications.
    - Loose Box and Core Samples
      - Representative will determine sample locations and direct the Contractor to obtain the sample.
      - Once the Contractor has obtained the sample, the security and delivery of the samples to the Representative will be according to the procedures agreed upon at the pre-placement meeting. At a minimum, the following must be included in these procedures:
        - Identification and security of the samples
        - Acceptable container
        - Method of delivery to the Representative
- **Concrete Acceptance Testing**
  - If the Contractor can develop a method to disinfect the air meter prior to the Representative performing a verification test that is approved by the District, concrete acceptance testing can continue as specified. Otherwise, use the process described below.
  - For Department projects, the Contractor will continue to perform quality control testing, and the Representative will perform acceptance testing using separate equipment at a separate testing location as detailed below. This can also be applicable for projects delivered using alternate methods utilizing Publication 408, Specifications.
    - Contractor will provide separate equipment for exclusive use by the Representative required to perform the acceptance testing and sufficient equipment for backup.
    - While the Contractor is witnessing the Representative perform the acceptance testing, the Contractor will immediately notify the Representative if the acceptance testing is not being performed properly and ensure corrective actions are implemented before continuing.
    - Representative will obtain a sample to perform slump and air content testing using separate equipment.
    - Representative will identify and mold the compressive strength cylinders according to PTM 611. Cylinder identification is essential in performing virtual compressive strength testing.
    - Representative will strip the cylinders and transfer the identification information onto the cylinders according to PTM 611.
    - Contractor will cure the cylinders as required and perform compressive strength testing. Representative will witness compressive strength testing either at a safe distance or virtually.

- **PennDOT/NECEPT Aggregate, Asphalt, and Concrete Certified Technician Programs**
  - In accordance with Governor Wolf's March 11, 2020 directive on Planning for Large Meetings, Conferences, Trainings, and Community Events, all remaining PennDOT/NECEPT technician courses after March 16, 2020 were canceled. Guidance on each technician program for the 2020 construction season is provided below:
    - **Aggregate:** https://www.superpave.psu.edu/assets/docs/Cancellation-MEMO-for-PennDOT-NECEPT-Aggregate-Technician-Courses.pdf
    - **Asphalt:** https://www.superpave.psu.edu/assets/docs/Cancellation-MEMO-for-PennDOT-NECEPT-Asphalt-Technician-Certification-Program.pdf
    - **Concrete:** https://www.superpave.psu.edu/assets/docs/Cancellation-MEMO-for-PennDOT-NECEPT-Concrete-Field-Testing-Technician-Courses.pdf
- **Labor Compliance**
  - Project Bulletin Board
    - Contractor will visibly display all required postings on the project's bulletin board and protect all postings from the weather. No postings can be double sided.
    - For Federally funded projects, the Contractor will clearly display on the project's bulletin board the one-page EEO Policies on company letterhead for all their approved subcontractor's with contract values over $10,000.00.
  - Certified Payrolls
    - Contractor will submit certified payrolls to the Representative through a PCS.

- Labor Compliance Wage Rate Interviews
  - Representative will continue to perform wage rate interviews at the frequency established in the POM practicing social distancing during the interview, however, the Contractor's employee signature will not be required. "COVID-19" will be documented in employee signature block by the Representative.
  - Representative will verify wage rate interview after receiving the certified payroll through a PCS

C91A - a00091 Changes to Specifications: Section 1047

Addendum:

Associated Item(s):

Header:

Changes to Specifications: Section 1047

Provision Body:

SECTION 1047 – POLYESTER POLYMER CONCRETE (PPC) OVERLAY

1047.1 DESCRIPTION – This work is construction of a one course wearing surface of Polyester Polymer Concrete (PPC) on in-service bridge decks. The indicated or specified depth of the wearing surface is the minimum.

1047.2 MATERIALS – Provide PPC consisting of polyester resin binder and aggregates with a compatible primer meeting the component and composite material properties specified. Supply components collectively through the same provider, qualified as defined within this Section and referred to as the System Provider.

(a) High Molecular Weight Methacrylate (HMWM) Primer. Provide a wax-free, low odor, HMWM primer, consisting of a resin, initiator, and promoter. Provide a primer conforming to Table A. Store components according to the System Provider's recommendations. Provide initiator for the methacrylate resin consisting of a metal drier and peroxide. Provide resin and initiator pre-mixed from the System Provider. Do not store containers and measuring devices in a manner that allows leakage or spilling to contact the containers or materials of the other.

TABLE A
HMWM Primer Requirements

Property	Requirement	Test Method
Apparent Viscosity*, cps, max	25	ASTM D2196, Test Method A (Brookfield RVT with UL adapter, 50 RPM)
Volatile Content*, %, max	30	ASTM D2369
Specific Gravity* at 77F, min	0.90	ASTM D1963-85 (1996)
Flash Point, F, min	180	ASTM D3278
Vapor Pressure* at 77F, mm Hg, max	1.0	ASTM D323
PPC Saturated Surface-Dry Bond Strength (Adhesive) at 24h ± 15 min, and 70F ± 1F, psi	615	CalTrans Test 551, Part 5 (with initiated PPC at 12% resin content by weight of the dry aggregate), primed surface

*Perform test before initiator is added

(b) Polyester Resin Binder. Provide polyester resin binder conforming to the following properties:

- Be an unsaturated isophthalic polyester-styrene co-polymer.
- Contain at least 1 percent by weight gamma-methacryloxypropyltrimethoxysilane, an organosilane ester silane coupler.
- Be used with a promoter that is compatible with suitable methyl ethyl ketone peroxide (MEKP) and cumene hydroperoxide (CHP) initiators.
- Meet the required values for the material properties as specified in Table B, below.

TABLE B
Polyester Resin Binder Requirements

Property	Requirement	Test Method
Apparent Viscosity*, cps	75 - 200	ASTM D2196, Test Method A (RVT No.1 Spindle, 20 RPM)
Specific Gravity* at 77F	1.05 to 1.10	ASTM D1963-85 (1996)
Elongation, %, min.	35	ASTM D638, Type I specimen, thickness 0.25 ± 0.03" at Rate = 0.45 inch/minute. Sample conditioning according to ASTM D618 and Condition 18/25/50+5/70
Tensile Strength, psi, min.	2,500	ASTM D638, Type I specimen, thickness 0.25 ± 0.03" at Rate = 0.45 inch/minute. Sample conditioning according to ASTM D618 and Condition 18/25/50+5/70.
*Perform test before initiator is added		

(c) PPC Aggregate. Provide aggregate for PPC conforming to the requirements in Table C and Table D.

TABLE C
Aggregate Requirements

Property	Requirement	Test Method
Fine aggregate composition	Natural sand only	-
Weighted Average Absorption, %, max.	1.0	AASHTO T 84 and AASHTO T 85
Moisture Content by Percent of Aggregate Absorption, at time of mixing with polyester resin, %, max.	0.5	AASHTO T 255
Mohs Hardness, min.	7	-

TABLE D

Aggregate Gradation

Sieve Size	Percent Passing (Min – Max)
3/8"	100
No. 4	62-85
No. 8	45-67
No. 16	29-50
No. 30	16-36
No. 50	5-20
No. 100	0-7
No. 200	0-3

(d) Polyester Polymer Concrete (PPC). The resin content of PPC is to be 12% ± 1% of the weight of the dry aggregate. Accelerators or inhibitors may be required to achieve proper setting time of PPC. Use as recommended by the overlay System Provider. Provide PPC composite mixture conforming to the requirements in Table E.

TABLE E
PPC Composite Mixture Design Requirements

Property	Requirement	Test Method
PCC Saturated-Surface Dry Bond Strength (Modulus of Rupture), without primer* (at 24 h ± 15 min and 70 ± 1F), psi, min.	500	CalTrans Test 551, Part 5
Surface Abrasion Resistance (Abrasion Loss), g, max	2	CalTrans Test 550
Modulus of Elasticity, ksi	1,000 to 2,000	ASTM C469
Chloride Permeability (Charge Passed), coulombs, max.	200	ASTM C1202
*Initiated PPC mixture tested at 12% resin content by weight of dry aggregates.		

(e) Surface Finishing Sand. Provide sand for abrasive sand finish conforming to the following properties:

- Commercial-quality blast sand required.

- Have at least 95% passing the No. 8 sieve and at least 95% retained on the No. 20 sieve when tested according to AASHTO T27.
- Must be dry at the time of application.
- Material components are supplied collectively through the System Provider. Aggregates to be supplied by the System Provider and delivered in packaging to the site clean and dry.

(f) Certification. Certify the PPC overlay system as specified in Section 106.03(b)3. Along with the certification, provide independent testing for the HMWM primer, PPC resin, aggregate, and PPC mixture to verify compliance with the material requirements as specified in Tables A, B, C, D, and E. Provide independent testing for the aggregate and PPC mixture from an AASHTO certified laboratory. Provide independent testing for HMWM primer, PPC resin from an ISO certified laboratory. Perform testing within 12 months of furnishing materials to the project.

1047.3 CONSTRUCTION

(a) Qualifications.

1. Installer. Submit up to three projects demonstrating experience installing PPC. For installers with no PPC installation experience, list a minimum of three projects demonstrating bridge deck or latex overlay placement experience.

2. System Provider. Submit documented evidence of having successfully supplied a complete PPC overlay system on at least five projects of similar size and scope within the last 5 years.

3. System Provider Technical Representative. Submit documented evidence having successfully provided technical support on at least five projects of similar size and scope within the last 5 years.

(b) Submittals.

1. Quality Control (QC) Plan. As specified in Section 106.03(a)2.a, submit a project specific QC Plan for approval a minimum of 30 calendar days before material placement. The onsite System Provider's Technical Representative is required to review and approve the plan. Deviations from the approved QC Plan are to be approved by the Representative. Discuss the QC Plan at the pre-placement meeting. Deviation from the approved QC Plan will be cause for immediate suspension of operations. The QC Plan is to include key personnel, equipment, materials, mixing procedures, safety, proposed methods of installation and operation, and the following:

1.a QC Plan Administrator. Provide name of person having full authority to institute action necessary for the successful operation of the QC Plan. The QC Plan Administrator is responsible for the following:

1.a.1 Procedures. Identify and provide procedures in the QC Plan for the following:

- Safety Procedures.
- Documenting the storage procedures for PPC resin, HMWM primer and aggregates.
- Documenting areas and quantities used of PPC resin and aggregate at each site.
- Documenting the temperature of each component tank with an infrared thermometer before mixing.
- Moisture control methods of aggregate.
- Cleaning and maintenance schedule for machinery and equipment.
- Corrective actions for unsatisfactory construction practices and deviations from the specifications.

1.a.2 Field Work. Perform required field QC sampling, testing and recordkeeping according to the QC Plan and contract documents.

1.a.3 Recordkeeping. Maintain and make available upon request, complete records of sampling, testing, corrective actions, and QC inspection results.

1.b System Provider’s Technical Representative. Provide name of person responsible for the following:

1.b.1 Training. Train and provide recommendations to construction personnel in the safe handling and proper application of materials before placing the PPC overlay.

1.b.2 Required Site Visits.

- Onsite for the trial application and for the first 3 days of installation.
- For installers with no previous PPC placement experience, the System Provider’s Technical Representative is required to be onsite for the trial application and the entire placement to ensure proper installation.
- Onsite when corrective action is required.

1.c Placement Plan. Section of QC Plan that includes the following.

1.c.1 Overlay System.

- Safety Data Sheets (SDS)
- Data Sheets from the Manufacturer and System Provider outlining requirements for storage, handling, and mixing of PPC components, HMWM resin, and aggregates

- Data Sheets from the Manufacturer and System Provider including requirements and procedures for surface preparation, application/installation, curing, cure times, site cleanup, cleanup of mixing and placement equipment, and disposal of materials including HMWM resin, PPC and containers
- Test reports for overlay system.
- Mix Design.

1.c.2 Placement Schedule.

- Provide schedule for each structure receiving overlay.
- Provide placement sequence for each structure. Include paving lengths, widths, directions, and phase joint locations. Cold joints between passes within 6 inches of the indicated line striping locations or centered within a lane are not allowed. Limit joints as much as practical. Do not add joints, other than those indicated, unless approved.

1.c.3 Equipment. Provide description of equipment for the following:

- Surface preparation including grinding and shot blasting.
- Applying HMWM primer resin.
- Sketch showing complete details of supports for finishing equipment.
- Measuring, mixing, placing, and finishing.
- Applying surface finish sand.

1.c.4 Placement Operations.

- Chain of command in the event of unforeseen circumstances during construction
- Procedures for surface preparation, application/installation, finishing, and curing
- Method of protecting and finishing around bridge drains
- Method of protecting and finishing along parapets
- Method for controlling, measuring and maintaining overlay thickness, profile, surface tolerance, and texturing.
- Environmental BMP's required to ensure that the overlay materials do not leave the site (including protective measures at inlets, scuppers, barrier drains, etc.)

2. Pre-Placement Meeting. Schedule a pre-placement meeting with the Structure Control Engineer a minimum of 14 calendar days before material placement. The QC Plan Administrator, System Provider's Technical Representative, and Contractor's Representative are to attend the pre-placement meeting.

(c) Delivery and Storage of Materials. Store materials in a clean, dry environment and according to the manufacturer's recommendations. Materials not stored properly will be rejected. Materials that exceed the manufacturer's recommended shelf life will be rejected. Materials are to have a minimum shelf life of 12 months. Store liquid materials out of direct sunlight and at temperatures less than 80F. Store aggregates in a clean, dry location away from moisture. Applicable fire codes may require special storage facilities for some components of the overlay system.

Obtain and post at the storage areas the SDS, Product Data Sheet, and other information from the System Provider regarding the safe practices for the storage, handling, disposal of materials, and health hazards.

Include the System Provider's name, date of manufacture, batch/lot number, trade name, quantity, and mixing ratio printed on the label for each storage container with binder components and primer. Include the producer name, date of shipment, batch/lot number, weight and independent lab test reference number for containers with aggregate as supersack. All materials must be delivered in their original containers with the manufacturer's label.

(d) Application Conditions. Do not apply PPC on a wet surface, when the temperature is below System Provider's recommendation, or when the anticipated weather conditions would prevent the proper application of the surface treatment.

During surface preparation and overlay application, provide shielding as required and directed to protect adjacent traffic from rebound, dust, and construction activities.

During overlay application, provide suitable coverings (i.e. heavy duty drop cloths) as needed to protect exposed areas not to receive overlay, such as curbs, sidewalks, parapets, etc. Clean and/or repair damage or defacement resulting from this application to the satisfaction of the Representative.

(e) Equipment. Provide equipment for cleaning the existing concrete surface and mixing and applying the overlay system according to the Systems Provider's recommendations.

1. Surface Preparation Equipment. Provide appropriate shotblasting or sandblasting equipment to adequately prepare the bridge deck substrate. Provide a self-propelled vacuum capable of picking up dust and other loose material from the shotblasting or sandblasting operation. Provide equipment to supply compressed air free of oil and moisture for final surface preparation.

2. Mixing Equipment. Mixing may be accomplished by a portable mechanical mixer suitable for concrete or by a Continuous Automated Mixer.
2.a Portable Concrete Mechanical Mixer. Provide portable concrete mixer appropriately sized for proposed batches, as recommended by the System Provider.
2.b Continuous Automated Mixer. Provide continuous mixer appropriately sized for proposed batches, as recommended by the System Provider. Provide continuous mixer capable of handling polyester binder resin and catalyst while sufficiently mixing catalyzed resin with dry aggregate and maintaining proper ratios to achieve set/cure times within the specified limits.
Provide continuous mixer equipped with an automatic metering device that measures and records aggregate and resin volumes, at least every five minutes, including time and date. Submit recorded volumes at the end of the work shift. Have a visible readout gage that displays volumes of aggregate and resin being recorded.
3. Finishing Equipment. Finishing may be accomplished with a vibratory screed or a self-propelled slip-form paving machine. Do not use roller screeds.
3.a Vibratory Screed. Use a vibratory screed riding on preset forms or rails.

3.b Self-Propelled Slip-Form Paving Machine. Use a self-propelled slip-form paving machine, which is modified or specifically built to effectively place PPC. Equip paving machine with a vibrating pan to consolidate and finish PPC. Fit paving machine with hydraulically controlled grade automation to establish the finished profile to match grade when placing lanes adjacent to previously placed PPC. Have sufficient engine power and weight to provide adequate vibration of the finishing pan while maintaining consistent forward placement speed. Be capable of both forward and reverse motion under its own power.

(f) Trial Application. Before constructing the overlay, place one or more trial applications on a prepared surface to demonstrate proper initial set time and the effectiveness of the surface preparation, mixing, placing and finishing equipment proposed. Prepare the surface for the trial application the same as the structure to receive overlay. Place each trial application at least 10 feet long at the indicated overlay thickness and at a profile grade and paving width similar to the structure(s) to receive overlay. Perform trial applications at approved locations.
If the cleaning practice, materials, installation, finishing and/or texturing are not acceptable, remove the failed trial application and reinstall the trial application at no additional cost to the Department until satisfactory results are obtained.
Provide as many trial applications required to demonstrate the ability to construct an acceptable trial overlay section and perform the remaining work. The installer, System Provider and/or proposed equipment/techniques may be rejected if not shown to be acceptable after three (3) failed trial applications.
Test the trial application as specified in Section 1047.3(i).
Repair bond test locations according to the System Provider's recommendations.
(g) Surface Preparation. Before surface preparation, perform a pre-condition survey of the existing concrete bridge deck cracks to locate potential reflective cracks in the wearing surface.
Prepare the surface to the following requirements:
Clean areas that will be in contact with the PPC overlay by shot blasting, or abrasive sandblasting if the shot blaster cannot access certain areas, to remove grease, slurry, oils, paint, dirt, debris, curing compound, rust, membrane, asphalt, weak surface mortar or other contaminants that could interfere with the proper adhesion of the overlay system. Shot blast no more than 24 hours before placement of PPC. Perform scarification, if indicated, before shot blasting. For existing bridge decks, do not begin cleaning for a minimum of 28 days after unsound areas have been repaired as specified in Section 1040. For new bridge decks, do not begin cleaning for a minimum of 28 days after deck placement. Do not allow dust created during cleaning operations to interfere with traffic. Satisfactorily remove and contain contaminants.
Determine the size of shot, flow of shot, forward speed of shot blast machine and number of passes necessary to provide a surface free of weak or loose surface mortar, exposing the aggregates within the substrate concrete and visibly changing the color of the substrate concrete. Exposed mortar after cleaning operations is considered adequate for bond when the mortar has open pores, is sound and is firmly bonded to the coarse aggregate.
Do not expose cleaned surfaces to traffic unless approved. If contamination occurs to the concrete substrate after cleaning, clean again as directed and according to the System Provider's recommendations before placing the overlay at no additional cost to the Department. The cleaned concrete substrate is to be dry at the time of application of the primer and overlay.
Clean steel surfaces that will be in contact with PPC according to SSPC-SP10.
(h) Application. Do not begin application of primer and PPC overlay until a minimum of 28 days after placement of new substrate or substrate repairs. Before application of primer and PPC overlay, once the surface is free of water, moisture, and is visibly dry, perform moisture test according to ASTM D4263 modified for 2 hours to verify dryness. Do not place primer or PPC unless the substrate surface temperature is between 40-100F.
1. Prime Coat. Use oil free compressed air to completely dry and clean the area before applying the HMWM prime coat. Mix and apply primer according to the System Provider's recommendations. Apply primer within 5 minutes of mixing initiator and resin at a rate of approximately 90-100 SF/gal or as recommended by the System Provider. Apply primer by flooding and uniformly spreading to completely cover surfaces to receive overlay, including adjacent vertical surfaces. Avoid heavy application that results in excess puddling. Remove or distribute excess material to meet the recommended application rate. Reapply primer to areas that appear visibly dry before overlay placement.

2. PPC. Mix and apply PPC according to the System Provider's recommendations. Apply PPC after 15 minutes and within 2 hours of placing the primer. Place PPC before gelling or within 15 minutes following addition of the initiator, whichever occurs first, or as recommended by the System Provider.

An initial set time between 30 minutes and 90 minutes is required for PPC. The initial set is when the in-place PPC cannot be deformed by pressing with a finger. If the initial set is not within 30-90 minutes, remove and replace PPC at no additional cost to the Department.

Place, consolidate, and finish PPC using placement equipment as specified in Section 1047.3(e) to the minimum thickness, grade, and cross-section indicated. Termination edges of the overlay may require application and finishing by hand trowel due to obstructions such as curbs or scuppers. Adequately isolate expansion joints before placing PPC. Unarmored joints may be sawed within four hours after placing PPC, if approved. The exact time of sawing will be determined by the System Provider.

3. Abrasive Finish Sand. Evenly apply abrasive finish sand on the finished overlay surface at a rate of at least 2.2 LB/SY by broadcasting, immediately after the overlay placement before gelling. Provide adequate pavement friction. Ensure the completed overlay surface is free of smooth or glassy areas such as those resulting from insufficient quantities of abrasive finish sand. Repair surface defects as recommended by the System Provider and approved by the Representative.

4. Surface Tolerance and Texturing. After finishing and application of abrasive finish sand, while PPC is still workable, perform straightedge testing and surface correction as specified in Section 501.3(k)3. After the straightedge testing and surface corrections have been completed and before the PPC becomes nonplastic, manually texture/tine the surface as specified in Section 501.3(k)4 if mechanical texturing is not indicated. Terminate texturing 12 inches from gutterlines and scuppers. Terminate texturing within 5 inches, but no closer than 3 inches of bridge joints. Do not overlap tines. After the PPC has hardened, test the surface again as specified in Section 501.3(o). Resound the deck if directed.

When mechanical texturing is indicated, perform mechanical texturing as specified in Section 1001.3(k)6.f, except do not begin grooving operations until directed, until a minimum of 24 hours after placement, the PPC has cured as specified in Section 1047.3(h)5, and until the surface tolerance has been checked and high points are removed as specified in Section 501.3(o). Remove high spots by diamond grinding. Do not remove high spots until a minimum of 24 hours after placement.

5. Curing. PPC is considered cured to a traffic ready state after 4 hours following finishing or when a minimum reading of 3,000 pounds per square inch is achieved on a properly calibrated Schmidt hammer every 10 feet of deck longitudinally.

(i) Acceptance Testing. Acceptance of the surface preparation and PPC overlay will be determined by the Representative based on vertical axis bond tests.

1. Vertical Axis Pull Bond Test. Perform a vertical pull bond test according to ASTM C1583 between 24 hours and 72 hours after each day's placement of the overlay in the presence of the Representative. Perform a minimum of one vertical pull bond test on each bridge or day's placement, whichever is smaller, at a location or locations as designated. If multiple tests are taken in a span, the test result is the average of the tests for that span. The required minimum bond strength between the PPC overlay and substrate is 250 pounds per square inch. If the initial vertical pull bond test results do not meet the minimum requirement of 250 pounds per square inch, perform up to three additional vertical pull bond tests per bridge or day's placement where the minimum requirement of 250 pounds per square inch was not met. After additional testing, if the average of the test results for a bridge or day's placement do not meet the minimum requirement of 250 pounds per square inch, the bond between the substrate and PPC overlay in each bridge or day's placement not meeting this requirement is considered defective work, and the PPC overlay must be removed and replaced at no additional cost to the Department. Repair bond test locations with PPC according to the System Provider's recommendations.

2. Thickness Requirements. Variable thickness overlay placement may be required to account for variations in substrate profile to meet the desired grade and cross-section as indicated. The minimum required thickness is 1 inch. Remove and replace areas where the minimum required thickness was not attained at no additional cost to the Department.

3. Surface Smoothness. Check surface tolerance as specified in Section 1047.3(h)4.

(j) Immediate Corrective Work. As specified in Sections 105.12, 1001.3(u) and as follows:

If PPC overlay exhibits cracking or surface tears, perform an investigation with the Representative to determine the type, source, and extent of cracking. Measure the width, depth, and length of each crack and establish the locations of the ends of each crack with respect to permanent reference points.

Coring may be necessary if crack depths cannot be accurately determined using a mechanical probe. If coring is required, obtain two cores at each location or as directed. Submit for analysis one core to an independent laboratory and one core to the LTS to determine extent of cracking and if the cracks are structural or non-structural.

Remove and replace areas of structural cracks. If the investigation indicates the type of cracking to be nonstructural cracks (plastic shrinkage, drying shrinkage, temperature related, or surface tears caused by finishing and texturing) repair visible surface cracks and tears greater than 1/8 inch depth and from 0.007 inch to 0.016-inch width at no additional cost to the Department. Use HMWM penetrating crack sealer from the same manufacturer of the PPC overlay system to repair the surface cracks and tears. Completely fill cracks until flush with surface of PPC overlay. Immediately following the application of the HMWM resin, coat the wetted surface with surface finishing sand for abrasive finish.

Submit a Corrective Action Plan that includes, at a minimum, the proposed HMWM crack sealing material data sheet from the System Provider and conditions for use, including ambient and substrate temperature and moisture conditions. Do not perform crack sealing before the Corrective Action Plan has been accepted by the Representative and System Provider.

Keep cracks clean, covered, and dry until the crack sealing operation is performed to the satisfaction of the Representative. Unless directed, remove and replace wearing surface deficient in surface tolerance as specified in Section 501.3(o); failing to bond to the substrate; exhibiting nonstructural cracks or tears greater than 1/4-inch depth and greater than 0.016-inch width; or showing surface defects resulting from the effects of rain, improper finish, improper cure, or honeycombing, that cannot be repaired.
Use repair materials and finishing methods for surface defects in the PPC overlay according to those used for the installation of the overlay.
1047.4 MEASUREMENT AND PAYMENT – Square Yard.
The unit price includes the System Provider's Technical Representative's reviews and site visits.

C92A - a00092 Changes to Specifications: Section 1072

Addendum:

Associated Item(s):

Header:
CHANGES TO SPECIFICATIONS: SECTION 1072

Provision Body:

SECTION 1072—COATINGS WASTE MANAGEMENT, CONTAINMENT, ENVIRONMENTAL PROTECTION, AND SAFETY

1072.1 DESCRIPTION— This work is waste management, containment, environmental protection, and protection of workers during removal of existing coatings and application of new coatings. This work includes the following:

- Properly collecting, handling, storing, classifying, transporting, and disposing of hazardous and non-hazardous waste according to applicable Federal, State, and Local regulations.
- Furnishing and installing containment systems to control emissions of dust, lead, and other toxic metals that may be present in the coatings being removed or abrasive blast media being used to remove coatings.
- Having a program in place for the safety and protection of workers from over exposure to lead and other toxic metals that may be present in the coatings being removed or abrasive blast media being used to remove coatings.
- Conducting environmental monitoring during removal of existing coatings, and ensuring the site is properly cleaned after coatings operations are complete.

1072.2 MATERIALS—

(a) Waste Containers. Maintain containers in good operating condition with lids and closing mechanisms intact and operational to prevent the escape of debris by wind, spilling of the contents, or access by unauthorized personnel.

1. Hazardous and Residual Waste. Provide DOT-approved containers of the appropriate size and type for the hazardous and residual waste generated on the project. Use containers that are resistant to rust and corrosion (coated, if constructed of steel), that have tight fitting lids or covers, and are water resistant and leak proof.

2. Municipal/Construction Waste. Provide containers for non-hazardous municipal/construction waste. Use containers that are free of loose debris when brought on-site.

3. Spent Solvents. Provide containers for spent solvents. Do not mix spent solvents with spent abrasives, coating debris, water, or other waste.

4. Wastewater. Provide containers capable of holding the water recovered from pressure washing activities, hygiene facilities, and laundry facilities if cleaning of protective clothing is performed on site.

(b) Containment.

1. Containment Materials. Supply materials needed to contain project debris according to SSPC Guide 6 and applicable Federal, State, and Local regulations. Only use containment materials that are flame retardant.

2. Cleanliness. Use materials and equipment that are free of loose dust and debris when brought onto each bridge site, and upon removal.

3. Instrumentation. Provide the Representative with a portable light meter with a scale of 0.0 - 538 LUX (0.0 - 50.0 foot-candles).

(c) Worker Health and Safety.

1. Instrumentation. Supply the instrumentation needed for the monitoring of worker and area exposures including equipment needed for its operation.

2. Boat/Skiff. When working over water, provide a life-saving skiff and operator when required.

3. Personal Protective Equipment (PPE). Provide personal protective clothing and equipment needed for contractor workers, and for two Representatives each shift, including proper cleaning, training in use, and disposal. Repair or replace PPE as required to ensure that it continues to provide its intended purpose.

4. Hygiene Facilities. Use hygiene facilities that are free of loose dust and debris when brought onto each bridge site, and upon removal. Properly handle and dispose of hygiene water, cleaning materials, and PPE that cannot be cleaned for reuse.

(d) Environmental Monitoring.

1. Instrumentation. When there are coatings and abrasives containing lead or other toxic metals, and sensitive receptors are located within 500 feet of the work areas, supply the instrumentation needed for monitoring ambient air. Install multiple monitors, when necessary, to ensure the protection of public health according to SSPC Technology Update No. 7 (SSPC TU-7), as determined by the Sensitive Receptor Survey provided in the Environmental Compliance Plan, and according to Local permit requirements. Provide additional monitors to ensure coverage of all areas where multiple, separate dust-generating activities are simultaneously being performed.

2. Cleanliness. Use equipment free of loose dust and debris when brought onto each bridge site, and upon removal.

3. Permit Requirements. For abrasive blasting operations that require a local permit, provide Total Suspended Particulate (TSP) ambient air monitors as required in the permit. Provide all materials and equipment required by the permit.

1072.3 CONSTRUCTION—

(a) General.

1. Generator Designation. If waste streams generated on the project are classified as hazardous, the Department will be the generator for permitting purposes, and will provide the EPA provisional identification number. However, the Contractor is responsible for the collection, handling, storage, testing, transportation and disposal of all wastes.

2. Waste. Recover waste products generated during cleaning and painting work, including but not limited to rags, tape, disposable coveralls, filters, coating debris, and paint cans. Contain the waste within the legal right-of-way.

3. Waste Storage Area. Determine and obtain acceptance of the location of the secured waste storage area for hazardous waste. Once a container of hazardous waste in the work area is full, transport the waste to the secured storage area within three days, or at an approved frequency.

4. Regulations. Conduct work according to Federal, State, and Local regulations governing the collection, handling, transportation and disposal of hazardous, non-hazardous, and residual waste and wastewater. When collecting and storing waste, prevent the dispersion of debris or dust during filling or moving containers and comply with the worker protection requirements as specified in Section 1072.3(h).

(b) Submittals. Submit the following plans, programs, and documentation for review and acceptance a minimum of 30 calendar days before the start of coating removal operations.

1. Waste Handling Plan.

1.a Disposal of Waste. A written program that addresses the proper handling and disposal of waste. Include the procedures that will be followed for the collection of representative samples of the waste; the procedures for the site handling, storage, and packaging of the waste; and contingency plans in the event of a spill.

1.b Executive Summary. Include an executive summary and contingency plan. The summary should be readily available at the project site. At a minimum, the Summary is to include the types of hazardous and non-hazardous waste expected to be generated at the site and the associated hazards, an estimate of the quantity of hazardous and non-hazardous waste generated, a description of the waste accumulation location, a map or description of the access/evacuation routes in case of a spill of hazardous waste or emergency, and the name and contact information of the emergency coordinator according to 40 CFR 262.

1.c Transporter Information. The names, addresses, license or permit numbers, insurances, and qualifications of the proposed haulers of hazardous waste, non-hazardous waste, and wastewater.

1.d Disposal Facility. Advise legally permitted recycling or waste disposal facilities that bridge coating debris will be generated and identify the toxic metals that the waste will likely contain. Based on that information, request a letter from the hazardous waste recycling or disposal facilities stating that the facility can accept this type of waste, is authorized to accept the waste under the laws of the state of residence, has the required capability to treat and dispose of the materials, and will provide or assure the ultimate disposal method indicated on the Uniform Hazardous Waste Manifest.

1.e Municipal Landfill. Submit the name and address of the permitted municipal waste landfill that will accept the non-hazardous and residual waste generated by the Contractor.

1.f Wastewater. Provide a letter from the proposed facility that will be accepting the wastewater for disposal, indicating that the facility has the capability to handle and properly dispose of the water. Advise the facility of any toxic metals that may be present in the water.

1.g Laboratory Qualifications. Provide the name, address, experience, and qualifications of the laboratory and firm that will be used for the waste sampling and analysis required under this Section.

2. Containment Plan.

2.a Design and Loading Calculations. Include calculations, data, and assumptions used for the design of the containment and ventilation system and the imposed loads on the existing structure. Do not allow the containment system to induce a load on the existing structure that will create an overstress condition or otherwise effect the structural integrity of the structure. For SSPC Guide 6 abrasive blasting containments, include calculations of the design air flows within the containment, descriptive information and fan curve for the dust collector(s), and the locations and sizes of duct work and air inlets. Include calculations for system static pressure losses through the dust collector, duct work, and containment. Provide analysis for the anticipated dead and live loads including but not limited to material to be stored on the containment, waste, equipment, workers, and the effects of wind forces on the containment system and existing structure. Provide the maximum allowable load for the floor/platform. Design cables not to exceed 5% sag over the length of the span once in their final secured position. Include sag calculations. Determine attachment points. Make attachment points to substantial framing members only. Drilling or welding to structural steel is prohibited. Do not make permanent attachments or fastenings to the structure. Analyze both global and localized loading at all attachment points. Do not allow the system to encroach upon the required clearances.

2.b Engineering Drawings. Provide detailed containment drawings stamped by a Professional Engineer registered in the State. Include the maximum allowable load for the floor/platform and required clearances in the drawings. Provide details and procedures for staging, installation, moving, and removing the containment. Provide attachment locations, details, and installation procedures.

2.c Inclement Weather. Provide provisions for dropping the containment in inclement weather, for movement out of navigation lanes, and the controls exercised to prevent excessive sagging during cable installation to ensure the protection of traffic. Include calculations for an allowable wind speed which will be used in the field to determine the threshold for dropping the containment. Include the procedures to be followed for ensuring that waste is not released when the containment is dismantled as a result of inclement weather.

2.d Technical Data. Include technical data sheets, catalog cut sheets, specification sheets, any other information needed to thoroughly describe the containment plan and materials proposed for use. Provide the manufacturer’s specifications for the proposed enclosure material(s) including information on light transmittance, flame spread, burst strength, abrasion durability, and unit weight.

2.e Lighting. Plans for providing lighting according to SSPC Guide 12 and for maintaining navigational lighting during the work.

2.f Access. Provide a description of how the containment and platform is to be accessed. Identify the fall protection, edge protection, and prevention systems to be utilized inside the containment.

3. Lead (Toxic Metal) Health and Safety Compliance Program. When the paint and abrasives contain lead or other toxic metals, submit a written project-specific compliance program prepared under the direction of, and signed by a Certified Industrial Hygienist (CIH) according to 29 CFR 1926.62. Verify that Subcontractors are included in the program or in a separate program. If Subcontractors are operating under a separate program, include the program with the submittals. Revise and update the program(s) a minimum of every six months during the portion(s) of the project which involve the disturbance of toxic metals. Verify that the CIH signs off on six-month reviews and revisions. Upload revisions and CIH sign-off to project files for review and approval. Include in the Compliance Plan, a detailed checklist for site inspections by the competent person.

3.a Personnel Qualifications. Provide the name, experience, and qualifications of both the CIH overseeing the development of the compliance program, and the competent person assigned to the project conducting routine inspections. The competent person is required to have successfully completed the SSPC-C3 training course. On projects where the contractor is required to maintain a SSPC QP-2 certification (field removal of hazardous coatings), the competent person is required to have received the 8-hour SSPC C5 refresher training within the past 12 months.

3.b Outside Laundry. Provide the name, address, and qualifications of the launderer, if one will be used, for the cleaning of reusable clothing. Provide a letter from the launderer indicating that it is permitted to handle clothing contaminated with lead and other toxic metals of concern.

3.c Laboratory Qualifications. Provide the name of the laboratory and firm that will be used for the worker and area exposure monitoring. Verify that the analytical laboratory is American Industrial Hygiene Association (AIHA) accredited for metals analysis and has successfully participated (previous 12 months at a minimum) in the AIHA Environmental Lead Proficiency Analytical Testing (ELPAT) program.

3.d Personal Protective Equipment for Department Use. Acknowledge that protective clothing and equipment, laundering or disposal, fit testing as needed, and hygiene facilities will be provided for two Representatives at each site for each shift.

3.e Training for Representatives. Acknowledge that site training according to 29 CFR 1926.62 will be provided for two Representatives at each site per shift if there is the potential for lead exposures on the project. Include training as appropriate for other toxic metals that are present in the coating or abrasive being used.

4. Environmental Compliance Plan. Submit a plan that establishes programs for the monitoring activities and includes provisions for complying with the results of monitoring and analysis. Include the following:

4.a Sensitive Receptor Survey (for hazardous coatings/abrasives). Provide a map or written narrative identifying sensitive receptors. Sensitive receptors include, but are not limited to, schools, hospitals, childcare facilities, nearby residences, and locations where the public has access (bridge sidewalks, parks, ball fields, recreational waterways).

4.b Assessments of Visible Emissions and Releases (for hazardous and non-hazardous coatings/abrasives). Submit a written program for the observation of visible emissions during project activities, and inspections for releases or spills of dust and debris that become airborne and deposited on surrounding equipment and property. Include the frequency of observations and inspections that will be made, areas or work activities that will be observed, and methods of observation and inspection that will be utilized. Include the name(s) and qualifications of the personnel conducting the observations and inspections.

4.c High Volume Ambient Air Monitoring (for hazardous coatings/abrasives). Submit a written program for the instrument monitoring of emissions to assure compliance with this Section and any applicable City, Township, County, State or Federal regulations. Include procedures to confirm that the monitoring equipment is properly calibrated, sited, and operated; filters are properly handled and transported; the laboratory analysis is performed by an accredited laboratory; and that monitoring calculations, documentation, and forms will be uploaded directly to the project files. Include information on monitoring frequency, as well as the proposed number and locations of ambient air monitors. Submit the name of the independent third-party monitoring firm who will be performing the ambient air monitoring.

4.d Ground (Soil) Evaluations (for hazardous and non-hazardous coatings/abrasives). Submit a written program for the visual inspection of the ground before commencement of the project and upon completion to determine whether the ground was impacted by project activities.

4.e Water/Sediment Evaluations (for hazardous and non-hazardous coatings/abrasives). Submit a written program for the visual inspection of the water and sediment before commencement of the project and upon completion to determine whether the water or sediment was impacted by project activities. Include plans for the collection and removal of debris from the surface of water when working over streams, rivers, lakes, and other bodies of water.

4.f Compliance with Environmental Monitoring (for hazardous and non-hazardous coatings/abrasives). Include corrective action measures that will be implemented if the results of monitoring and analysis show that violations of emissions criteria are occurring.

4.g Remediation of Ground (Soil), Water, and Sediment. Include corrective action measures that will be implemented if the post-project inspections show unacceptable results, and how debris from the ground (soil), water, and sediment will be removed.

4.h Final Cleaning/Clearance Evaluations. Include the procedures and methods that will be used to conduct final project clean up, and final cleanliness inspections and evaluations. Clearance tests ensure the project area and surrounding surfaces have been properly cleaned.

5. EPA ID Number. The Department will provide an EPA provisional ID number and signatures on the hazardous waste manifest.

6. Additional items provided by the Contractor.

- Containerizing, testing (classifying), handling, and storage of all waste.
- Contracting with licensed and permitted waste transporters for the transportation of hazardous, residual, and non-hazardous waste, as well as wastewater.
- Contracting with licensed and permitted recyclers or disposers of waste.
- Locations for waste storage together with appropriate measures to ensure that the area is secure.
- Completed Waste Characterization Data Sheets for Department signature.
- Completed hazardous and residual waste manifests for Department signature.
- Bill of Lading for non-hazardous waste and wastewater.

(c) Waste Management (Hazardous, Non-Hazardous, Residual, and Wastewater).

1. Samples.

- Collect representative samples of the coating debris generated by project activities. Collect samples under the observation of the Representative.
- Collect samples according to SW-846, "Test Methods for Evaluating Solid Waste - Physical/Chemical Methods." Describe the sampling methods in the Waste Handling Plan.
- For paint containing lead or other toxic metals, handle and treat the waste generated using steel abrasives as hazardous regardless of the TCLP results. Collect and analyze a minimum of one representative sample of the steel grit debris to identify the composition of the waste.
- Collect and have analyzed, a minimum of four representative samples of other waste streams (i.e., waste streams which do not contain steel abrasives). Use a random sampling technique to collect the samples.
- Complete the initial sampling of each waste stream immediately and send samples to the laboratory for analysis.
- Unless directed or required by state regulations or the waste recycling or disposal facility, once each waste stream is sampled, tested, and classified, additional sampling and analysis are not required for subsequent shipments unless the waste stream changes.

2. Testing.

2.a Laboratory. Direct the laboratory to test the waste according to 40 CFR 261, Appendix II, Method 1311 Toxicity Characteristic Leaching Procedure (TCLP), to determine if it is hazardous.

2.b TCLP. Analyze the samples from each waste stream by TCLP for all eight RCRA metals and other hazardous substances. If expendable abrasives are used, also analyze the samples for arsenic. When chemicals strippers are used, test liquids and sludge. Include pH to determine corrosivity.

3. Classification.

3.a RCRA Metals. Coating debris is classified as hazardous waste if the leachate contains any of the 8 RCRA metals or other hazardous substances in concentrations at or above the limits established in 40 CFR 261. The presence of these substances at lower concentrations classifies the waste as residual.

Arsenic - 5.0 mg/L

Barium - 100.0 mg/L

Cadmium - 1.0 mg/L

Chromium - 5.0 mg/L

Lead - 5.0 mg/L

Mercury - 0.2 mg/L

Selenium - 1.0 mg/L

Silver - 5.0 mg/L

3.b Use of Steel Abrasives. Where lead-containing paint is being removed, debris that is generated by steel abrasives has been classified by the Department as hazardous for lead even though it passes the TCLP test. In Box 9b of the waste manifest, identify this waste as "paint chips-hazardous."

3.c Other Hazards. The above includes only those elements typically associated with coatings. Other substances may be present which can cause debris to be classified as hazardous waste as defined in 40 CFR 261.

4. Laboratory Report.

4.a Timeline. Have the laboratory send the test results directly to the Representative with copies of the test results to the Contractor. Issue reports no later than ten (10) calendar days after the representative samples are collected, and no later than 40 days after project start-up.

4.b Test Results. At a minimum, include the following information in each report: Identity of the waste stream(s) analyzed, the number of samples collected and tested, dates of sampling and testing, laboratory test procedures utilized, the names and signatures of the individuals collecting the samples and conducting the laboratory tests, and an interpretation of the test results. Include copies of the chain-of-custody forms in the documentation.

4.c Waste Characterization Data Sheet (WCDS). Prepare the Waste Characterization Data Sheet and provide to the Representative for review and signature. Once approved, submit the original WCDS to the Department.

5. Waste Handling, Packaging, and Storage. Comply with 40 CFR 262 and Pennsylvania Title 25, Chapters 260a-266a, 266b and 268a-270a for the on-site handling, packaging, and storage of hazardous waste generated by the project. Comply with Pennsylvania Title 25, Chapters 285 and 299 for the handling, packaging, and storage of residual and municipal construction non-hazardous waste. Comply with additional Federal, State, County and City regulations including PennDOT’s Publication 611 Waste Management Guidance Manual.

Do not place hazardous or residual waste on the unprotected ground. Utilize impermeable tarpaulins or similar under all waste storage. Locate in a secure area with signs around the perimeter and shield adequately to prevent dispersion of the waste by wind or water. If the waste is determined to be hazardous, enclose in fenced area with locking gate until transport. If using a roll off style dumpster with a locking lid, or hermetically sealed vacuum box, a fence is not required. Contact the Representative for approval of the storage location(s).

Collect and store all waste at the end of each working day in storage drums or containers such that no waste is left exposed overnight, at a minimum. Use DOT-approved containers for hazardous and residual waste storage.

Cover containers immediately upon filling and confirm that lids are attached except when filling. Verify that labels remain intact.

Store non-hazardous, residual, and hazardous waste separately. Do not co-mix hazardous waste with non-hazardous waste. Do not mix different types of hazardous waste together unless specifically approved by the Representative and the disposal facility.

Arrange containers in the storage area for easy accessibility. Stage the containers together in lots no greater than two rows of five containers each. Maintain a minimum lane clearance of 36 inches between each lot of ten containers.

Provide written documentation to verify that waste (hazardous, residual, and non-hazardous) is transported to the appropriate recycling or disposal facility in the required timeframe based on PennDOT’s Waste Management Guidance Manual (Publication 611). Large Quantity Generators (LQGs) can accumulate hazardous waste on the site for up to 90 days.

Improper waste storage is cause for immediate project shut down until appropriate corrective action is completed.

Train personnel in the proper handling of the hazardous waste at the work site according to 40 CFR 265.16. Include procedures in the Waste Handling Plan that will be followed in the event of a release or spill, required notifications, and methods to be used for cleanup. Maintain training records on-site.

Do not fill container or roll-off in excess of the capacity marked on the container.

If soil remediation is required, place the soil into separate containers and assume costs for disposal.

Do not place contaminated reusable materials (i.e., tarps, duct hoses) on the unprotected ground. Clean, seal, or cover to prevent release of contaminants onto the ground.

Inspect the residual and hazardous waste storage area(s) for compliance with the specifications and State regulations. Inspect storage areas on a weekly basis. Document inspections.

6. Labeling of Containers. Label containers of project waste and debris immediately to identify the contents. Label containers of spent abrasive as "BRIDGE BLAST ABRASIVE WASTE". Include the Contract Number and the Bridge Identification Number or SR and SEC Number. Provide similar labels on containers of other project waste and debris.

Apply hazardous waste labels after the TCLP test results are received, if the waste tests hazardous. Label each container or roll-off of hazardous waste according to 40 CFR 262, 49 CFR 171-179, and Pennsylvania Title 25, Chapters 260a-266a, 266b and 268a-270a. Include the following minimum information:

- Hazardous Waste. Federal law prohibits improper disposal. If found, contact the nearest police, or public safety authority, or the U.S. Environmental Protection Agency.
- Proper DOT Shipping Name
- Manifest Document Number
- Generator Name, Address, and EPA ID Number
- Date of Accumulation
- EPA Waste Number

Affix a label to the container indicating the hazards associated with exposure to the contents of the container. If the container contains lead, then affix the following label according to the latest OSHA guidelines:

DANGER: LEAD MAY DAMAGE FERTILITY OR THE UNBORN CHILD

CAUSES DAMAGE TO THE CENTRAL NERVOUS SYSTEM

Label containers of used protective clothing as lead-contaminated clothing if the clothing is disposable. Apply hazardous waste labels as appropriate after testing.

Apply non-hazardous, municipal, or residual waste classification labels, as applicable, on other project waste according to Pennsylvania Title 25, Chapter 285 and 299.

Enter the above information using permanent marking material, printed in English, and displayed on a background of contrasting color unobscured by other labels or attachments. Locate labeling away from other markings that could substantially reduce its effectiveness.

Complete the labeling, marking, and placarding activities under the observation of the Representative, before storing or transporting container or roll off.

7. Waste Transportation and Disposal.

7.a Hazardous Waste.

- Upon receipt of TCLP results, prepare Waste Characterization Data Sheet(s) and provide to the Department for review and signature.
- Prepare the hazardous waste manifest for each shipment and provide to the Representative for review and signature.
- Arrange for the transportation of hazardous waste by a licensed transporter according to 40 CFR 263, 49 CFR 171-179, and Pennsylvania Title 25, Chapters 260a-266a, 266b and 268a-270a. Also comply with applicable County or City regulations. Verify that waste is completely covered during transport.
- Arrange for the recycling or disposal of hazardous waste according to 40 CFR 264, 40 CFR 268, and Pennsylvania Title 25, Chapters 260a-266a, 266b and 268a-270a. Verify that only licensed recycling or TSD facilities are used.
- Comply with the manifesting, certification, labeling, and reporting requirements for hazardous waste according to 40 CFR 262, 40 CFR 268 and Pennsylvania Title 25, Chapters 260a-266a, 266b and 268a-270a, including certificates of final disposal for each shipment.
- Upload to project files a certification for each manifested shipment that the waste was accepted by the recycling or disposal facility, and properly treated and disposed.
- Provide copies of bills of lading within 7 days of shipment.

7.b Residual and Non-Hazardous Municipal/Construction Waste.

- Transport and dispose of residual and non-hazardous municipal construction waste according to Pennsylvania Title 25, Chapters 271, 273, 279, 285, and 299.
- Verify that waste is completely covered during transport.
- Verify that the truck is properly designated with a residual waste sign measuring 6 inches in height when transporting residual waste.
- Verify that the transportation vehicle has a Pollution Prevention and Contingency Plan and carries the following information: County and state where waste originated, name and address of the carrier, name and location of disposal facility, and fire extinguisher.
- Comply with additional County and City regulations as applicable.

7.c Special Handling and Disposal Conditions for Wastewater.

- Provide containers for the collection and retention of wastewater, including but not limited to the water used for hygiene purposes, laundering of clothing if done on site, pressure washing, and cleanup activities.
- Filter visible paint chips and particulate from the water before placing it into the containers. Before disposal, test the water for total toxic metals and provide ample filtration of 5 microns or better through a multi-stage filtration system until the water is not classified as hazardous. Provide documentation of waste water sampling results to the Representative, including: the number of samples collected and tested, dates of sampling and testing, laboratory test procedures utilized, the names and signatures of the individuals collecting the samples and conducting the laboratory tests, and an interpretation of the results. Include copies of the chain-of-custody forms with the documentation. Unless directed or required by the disposal facility, once the initial wastewater sample has been analyzed, additional sampling and analysis is not required unless the waste stream changes.
- Make disposal arrangements with the local publicly owned treatment works (POTW), sanitation company, or other appropriate permitted facility. Provide the Representative with documentation signed by an official of the facility stating that the facility will accept the waste, and that the levels of lead remaining in the water are acceptable.
- Provide the Department with the name and address of the transporter and disposal facility for acceptance before use.
- Provide copies of bills of lading within 7 days of shipment.

7.d Recordkeeping. Provide the following information to the Representative: documentation of laboratory analyses, waste characterization data sheets, manifests and bills of lading, a listing of the type and quantity of waste generated, certificate of disposal, and the transportation and disposal facilities used for waste.

(d) Containment.

1. General. Use a containment system that maintains the work area free of emissions of dust and debris.

Follow the containment requirements as specified in this Section, and as stipulated in SSPC Guide 6 for the selected method of removal.

Erect and maintain containment systems based on the coating removal method as follows:

- Abrasive blast cleaning…… SSPC Class 1A (lead); Class 2A (non-lead)
- Wet abrasive blast cleaning……. SSPC Class 1W (lead); Class 2W (non-lead)
- Power tool cleaning……. SSPC Class 1P (lead); Class 3P (non-lead)
- Power tool cleaning with vacuum attachment…. SSPC Class 3P (lead); ground tarps (non-lead)
- Pressure washing/water jetting……. SSPC Class 2W (lead); Class 4W (non-lead)

For abrasive blasting projects in Allegheny County, in addition to the containment requirements as specified in this Section, comply with permit requirements as stipulated in the Allegheny County Health Department, Bureau of Environmental Quality Abrasive Blast Cleaning Permit. Complete and submit Part B of the "Abrasive Blasting Project Notice and Permit Application" to the Allegheny County Health Department, Bureau of Environmental Quality for approval. The Department is to complete Part A of the permit.

For abrasive blasting projects in the City of Philadelphia, complete and submit for approval the City of Philadelphia Department of Public Health, Air Management Services "Process Equipment Installation Permit Application for Minor Emission Source".

2. Certification of Installation. After each containment system is installed in the field, have a registered and licensed Professional Engineer field verify and certify in writing that the containment system has been assembled as shown on the approved, signed and sealed drawings. Verification through review of photographs and third-party reviewers is prohibited.

Submit the written certification of containment installation to the Department before starting any work within the containment.

If deviations from the accepted containment drawings are present, have the Professional Engineer note deviations from the design in the certification letter and indicate that the deviations will not affect the intended performance of the containment system or safety; or submit revised drawings and calculations for

acceptance showing the deviations. Do not begin surface preparation or coating removal activities until the certification or revised drawings have been received and accepted.

3. Special Restrictions. Comply with the project-specific vertical clearance requirements established by the Department.

Do not allow equipment and workers to be present or to operate over lanes that are open to traffic, unless specifically approved.

4. Enclosure System. Cover the containment floor or ground beneath the structure being prepared with air and dust impenetrable materials such as solid panels of plywood or flexible materials such as tarpaulins, if it serves as the base of the containment. Maintain the materials throughout the project to avoid losing debris through rips, tears, or breaks in the coverings.

Tarpaulins are not required on the decking/containment platform unless the platform is not preventing the release of spent abrasive, dust, and debris. If spent abrasive, dust, or debris is observed falling through gaps in the decking, seal the decking so that emissions are controlled or install tarpaulins over the decking.

Verify that the platform and its components are designed and constructed to support at least 4 times its maximum intended load without failure with wire cables capable of supporting at least 6 times their intended load without failure, if a suspended or elevated platform is constructed to serve as the base of the containment. Follow applicable OSHA regulations regarding scaffolding.

Design each SSPC Guide 6 Class 1A or 2A containment system to meet minimum air flow velocities of 60 feet per minute down-draft or 100 feet per minute cross-draft.

Remove debris from the containment materials and equipment before relocation to another point along the structure. Clean to the extent that debris or dust are not dislodged by winds or physical contact during handling and transportation.

5. Work Over Water - Containment Restrictions and Water Booms. Provide the necessary material and equipment on site to contain inadvertent spills or releases of dust and debris, when working over or near water. Materials and equipment that are typically acceptable include water booms and boats with skimmers. Remove project-related dust and debris from the surface of the water or from sediment immediately.

6. Outside Agency Notification. Provide the Department and the Coast Guard with the distance that the containment will extend below the bottom of the bridge (i.e. below the bottom chord) when operating in the navigation channel. Maintain this distance to the absolute minimum required.

Obtain advance approval from the Coast Guard any time that the work necessitates partial or total restrictions to the movement of vessels beneath the bridge. Provide the Coast Guard with the request at least 30 days before the need to commence such activities.

Design the containment to allow it to be moved out of the navigation channel within 24 hours of notification that ships needing additional clearance require passage, unless otherwise directed by the Coast Guard.

Provide the Representative and the Coast Guard with a 24-hour telephone number and contacts for discussions regarding the containment system.

Notify the Army Corps of Engineers and PA Fish and Boat Commission, where applicable, of the intended work, and comply with any restrictions or conditions.

(e) Maintenance of Bridge Lighting Systems and Containment Lighting Requirements

1. Navigational Lighting. Maintain navigational lighting throughout the project. Provide the lighting plan to the Department for approval in advance.

2. Work Area Lighting. Provide adequate lighting for surface preparation, coating application, and inspection work according to the guidelines established in SSPC TU-12. Increase the lighting if workers or inspectors have difficulty in seeing. Use explosion-proof lighting.

(f) Protection of Drainage Systems. Protect storm sewers and drains from the entrance of debris from project activities. Keep protective systems clean and operational throughout the entire project. Remove visible debris from the protective devices or from areas where rainwater could carry the debris into drains or storm sewers at the end of each workday at a minimum. Conduct more frequent cleaning as directed.

Identify the methods that will be used to route run-off from the existing deck drains through the containment enclosure. Do not close bridge deck drains without approval.

(g) Cleaning of Materials and Equipment During Relocation and Demobilization. Use compressed air for cleaning only inside a contained area equipped with an operating ventilation system capable of capturing the dust and debris.

Remove equipment and materials upon completion of project activities.

Thoroughly HEPA vacuum, wash, or otherwise decontaminate reusable items until loose surface dust and debris have been removed. These items include, but are not limited to, coating removal equipment, containment materials, ground covers, and scaffolding.

Treat materials as a separate waste stream and dispose of properly, if adequate cleaning is not possible. Collect water used for cleaning and dispose of as specified in this Section.

(h) Worker Health and Safety.

1. General. Conduct the work according to Federal, state, and local regulations governing the protection of workers from all jobsite hazards. Worker protection requirements apply to Contractor and Subcontractor personnel working for the Contractor. Requirements identified are based primarily on the OSHA Lead in Construction Standard, 29 CFR 1926.62, however, protection of employees from exposure to other toxic metals which may be present in the coating, abrasive or substrate is required by law.

Establish methods for complying with this Section and OSHA standards published for the toxic metals present in the coating or abrasive being used. Include statements that the workers will not be exposed above the PEL established for the metal as identified in 29 CFR 1926.55, when toxic metals are present in the coating for which OSHA has not developed a comprehensive health and safety standard.

Identify the methods of compliance that will be used to reduce worker exposures to toxic metals. Rely on respiratory protection only after feasible engineering and work practice controls have been first implemented to reduce airborne exposures.

2. Exposure Monitoring/Initial Protection. Collect representative personal air samples at the beginning of the coating removal work (at project start-up) for each exposure producing activity to determine employee exposures to lead and other toxic metals that might be present in the coating or abrasive. Collect full shift (minimum of 7 hours) air samples for each job classification in each exposure area, including Representatives. Submit results of the analysis within the same five-day notification period required for the employees, but no later than 14 days after collection.

Protect workers during the initial monitoring to the anticipated exposure levels as dictated by 29 CFR 1926.62 and as specified below when lead is present. Activities in addition to those dictated by OSHA are included. Use the same level of protection when other toxic metals are found in the coating, unless OSHA has developed a comprehensive health and safety standard for that metal. In those cases, implement the protection requirements of the standard for that metal.

Before receiving the personal air monitoring test results, employers must assume that workers are subject to the following exposures (based on work task according to OSHA 29 CFR 1926.62).

- Assume an exposure of at least 50 $\mu g/m^3$ during manual demolition of structures (e.g. drywall), manual scraping, manual sanding, heat gun applications, power tool cleaning with dust collection systems, and spray painting with lead containing coating. Although not identified in 29 CFR 1926.62, include chemical stripping, water washing, and the operation of abrasive grit recovery equipment in this category.
- Assume an exposure of at least 500 $\mu g/m^3$ when using lead containing mortar, lead burning, or conducting the following activities where lead containing coatings are present: rivet busting, power tool cleaning without dust collection systems, cleanup activities where dry expendable abrasives are used, and the movement and removal of abrasive blasting enclosures. Although not identified in 29 CFR 1926.62, include water jetting and wet abrasive blasting removal of coating in this category.
- Assume an exposure of more than 2,500 $\mu g/m^3$ during activities involving lead containing coatings on structures disturbed by abrasive blasting, welding, cutting, and torch burning.

Provide appropriate respiratory protection, personal protective clothing and equipment, change areas and washing facilities, blood lead and zinc protoporphyrin monitoring, and employee training during the above activities. Maintain the protection as specified above until the test results are received, then modify the protection measures as necessary.

Collect and analyze air samples according to the appropriate National Institute for Occupational Safety and Health (NIOSH) method, or equivalent, for the metal of concern.

Conduct periodic worker and Representative exposure monitoring and provide written employee notifications within five days of receipt of results according to the applicable OSHA standard for the metal of concern. This requires monitoring at project start up and after changes in work practices are made that could have an effect on airborne exposures. Conduct the monitoring and employee notification based on OSHA 29 CFR 1926.62. Provide the Department with the results of subsequent monitoring within the same five-day notification period required for the employee, but no later than 14 days after collection.

3. Action Level. The 8-hour Time Weighted Average (TWA) Action Levels for lead and other toxic metals that may be present in the coating being disturbed or the abrasive being used are as follows:

- Lead - 30 $\mu g/m^3$
- Cadmium - 2.5 $\mu g/m^3$
- Inorganic arsenic - 5 $\mu g/m^3$
- Beryllium – 0.1 $\mu g/m^3$
- Hexavalent chromium – 2.5 $\mu g/m^3$

For other metals that are found in the coating, and for which no Action Level exists, establish the Action Level at 1/2 of the PEL.
Invoke the following protective measures when the airborne exposure to a toxic metal found in the coating exceeds the Action Level:

- Exposure Monitoring
- Housekeeping
- Employee Medical Surveillance and Medical Removal Protection

- Employee Information and Training
- Signs and Regulated Areas
- Record keeping

4. Permissible Exposure Limit. The 8-hour Time Weighted Average (TWA) Permissible Exposure Limit for lead and other toxic metals that may be present in the coating being disturbed or the abrasive being used are as follows:

- Lead – 50 µg/m^3
- Cadmium – 5.0 µg/m^3
- Inorganic arsenic - 10 µg/m^3
- Beryllium – 0.2 µg/m^3
- Hexavalent Chromium – 5.0 µg/m^3

The PELs for other metals can be found in 29 CFR 1926.55.
In addition to complying with the requirements identified when exceeding the Action Level, invoke the following protective measures when the airborne exposure to a toxic metal found in the coating exceeds the PEL:

- Compliance Program
- Respiratory Protection
- Protective Clothing and Equipment
- Hygiene Facilities and Practices

5. Respiratory Protection. Use respiratory protection if necessary, to maintain employees' exposures to lead and other toxic metals below the PEL after feasible engineering controls and work practices have been implemented. Require the use of respirators for employees, inspectors, observers, or other personnel who enter areas where airborne exposures exceed or are expected to exceed the PEL, or when entering regulated areas.

Provide respiratory protection for two Representatives at each site for each shift, including fit tests. The Department is responsible for verifying that the Representatives are medically fit to wear respirators.

Develop a written Respiratory Protection Program in compliance with 29 CFR 1926.103, including commitments to provide the necessary medical examinations. Include the provisions of the associated OSHA standards for each toxic metal that is present in the coating being disturbed or the abrasive being used. Address the selection, use, maintenance and inspection of respirators, and qualifications for respirator users.

Treat used respirator cartridges as hazardous waste and dispose of according to this Section and Federal regulations.

6. Protective Clothing and Equipment. Provide protective clothing and equipment and ensure they are worn by employees whose exposures exceed the PEL. Provide required protective clothing and equipment for use by two Representatives at each site for each shift.

Do not allow workers to wear street clothing beneath protective clothing in areas where exposures to toxic metals exceed the PEL.

Clean or replace the protective clothing as required by the appropriate OSHA standard for the toxic metal that is present. In the case of lead, clean or replace the clothing weekly if the airborne exposure levels are less than 200 µg/m3 as an 8-hour TWA, or daily if the exposure levels are greater than or equal to 200 µg/m3. In the case of inorganic arsenic, the threshold for daily versus weekly cleaning is 100 µg/m3. Do not use disposable clothing for longer then one day.

Do not remove or clean the clothing by means which reintroduces the toxic metals into the ambient air such as brushing, shaking, or blowing. Use vacuums equipped with HEPA filters for cleaning.

Store the used clothing in sealed containers.

If the clothing is to be laundered and has been exposed to lead, label the containers with the following:

> "DANGER: CLOTHING AND EQUIPMENT CONTAMINATED WITH LEAD. MAY DAMAGE FERTILITY OR THE UNBORN CHILD. CAUSES DAMAGE TO THE CENTRAL NERVOUS SYSTEM. DO NOT EAT, DRINK, OR SMOKE WHEN HANDLING. DO NOT REMOVE DUST BY BLOWING OR SHAKING. DISPOSE OF LEAD CONTAMINATED WASH WATER IN ACCORDANCE WITH APPLICABLE LOCAL, STATE, OR FEDERAL REGULATIONS"

Modify the above text accordingly if the clothing has been exposed to other toxic metals.

7. Housekeeping. Clean accumulations of dust or debris containing lead (or other toxic metals) daily, at a minimum. Clean more frequently if visible accumulations are observed that could be carried outside of the regulated area by wind, workers shoes, rainwater, or other means. If grit, dust, or debris containing lead or other toxic metals is discovered outside of containment, clean immediately. Containerize the debris for proper disposal.

Conduct cleaning with HEPA-filtered vacuums and deposit dust and debris in sealed containers. Do not use compressed air for housekeeping purposes unless it is used in conjunction with a ventilation system capable of capturing the resulting airborne particulate.

8. Personal Hygiene Facilities and Equipment. Provide clean lavatory and hand washing facilities according to OSHA sanitation standard 29 CFR 1926.51. Locate the hand washing facilities near the coating removal operation, in an area that is convenient for washing before eating or smoking. Provide showers when exposures exceed the PEL. Confirm that employees whose exposures exceed the PEL shower before leaving the project site.

Testing and disposal requirements for wastewater are as specified in Section 1072(a)12. Prohibit eating, drinking, smoking, chewing of food or tobacco products, or the application of cosmetics in areas where the exposure to toxic metals exceeds the PELs or within regulated areas, and confirm that workers thoroughly wash hands and face before undertaking these activities.

Provide clean lunch and break areas for use by employees and maintain airborne concentrations in these areas below the Action Levels.

Provide clean change area(s) for employees whose exposures exceed the PELs. Equip the change area(s) with separate storage facilities for street clothing that are adequately segregated to prevent cross-contamination from work clothing. Ensure that employees do not leave the project site wearing clothing that was worn while performing activities where exposures exceeded the PELs.

Clean the decontamination facilities, lunch area, and hand wash station(s) at least daily.

9. Medical Surveillance and Medical Removal Protection. Provide employees with initial and periodic blood and zinc protoporphyrin (ZPP) sampling and analysis, and medical surveillance as required by the published OSHA health and safety standards that exist for the metal of concern. Verify that the blood analysis is conducted by laboratories certified by the PA Department of Health and meets OSHA accuracy requirements in blood lead proficiency testing (PT). For employees exposed to hexavalent chromium, inorganic arsenic, silica or beryllium, provide the specialized medical surveillance required by the associated OSHA comprehensive health standard.

Conduct blood sampling and analysis at a minimum of once every two months for the first six months of exposure, and at six-month intervals thereafter when lead is present. Conduct exit blood tests for each worker upon completion of his/her project activities which involve exposure to lead, even if this occurs before the completion of the Contractor's work on the project.

Do not use workers with initial blood lead tests of 40 µg /dl for work activities involving exposure to lead above the Action Level.

Provide for the temporary removal of employees from exposures above the Action Level for the metal of concern when the blood analysis indicates that unacceptable results are occurring. Protect employee’s benefits during period of medical removal and conduct tests required by the appropriate OSHA standards during the removal period. In the case of lead, return workers to exposures above the PEL only after two consecutive blood tests are below 40 µg /dl.

Provide physical examinations as required by the appropriate OSHA standards for metal(s) of concern and verify that examinations are performed by or under the direct supervision of the licensed physician.

Provide exam information and test results to the employees in writing within 5 days of receipt.

Submit a letter report signed by a CIH or physician that summarizes examination results. Provide the reports within 10 days of testing.

10. Employee Training and Information. Provide initial and annual refresher training for employees who will be exposed to toxic metals above the respective Action Levels on any one day in a 12-month period. Include the elements of training that are required by the appropriate OSHA standard. Use the training outlined in 29 CFR 1926.62 as the basis of the training program highlighting the differences as appropriate for the other metals of concern, if a standard for the metal does not exist. Provide the necessary training for two Representatives at each site for each shift in addition to the training of the Contractors' personnel.

Notify other contractors or employers of the nature of the lead exposure work, the need to remain out of exposure areas, the warning signs and labeling system in effect, and the potential need for them to take measures to protect their employees according to the applicable OSHA regulations when they are present at the site.

11. Signs and Regulated Areas. Establish zones (regulated areas) around areas or activities that might generate airborne emissions of lead, cadmium, chromium, inorganic arsenic, or other toxic metal in excess of the Action Level. Use ropes, ribbons, tape, or other visible means to define the areas and prohibit entrance into the regulated areas by unprotected or untrained personnel to ensure that they are not exposed to toxic metals from project activities.

Unless directed, until test results are available to establish the perimeter of the regulated area, initially establish the boundary a minimum of 4.6 m (15 feet) away from equipment or operations that might generate airborne emissions of toxic metals.

Post caution signs around the regulated area. If a regulation does not exist for the metal of concern, use the legend for the CAUTION sign as found in 29 CFR 1926.62 as the basis, inserting the name(s) of the other toxic metals. Sign requirements for lead, cadmium, and inorganic arsenic are as follows:

DANGER

LEAD WORK AREA
LEAD MAY DAMAGE FERTILITY OR THE UNBORN CHILD.

CAUSES DAMAGE TO THE CENTRAL NERVOUS SYSTEM.

DO NOT EAT, DRINK OR SMOKE IN THIS AREA

Use signs that are a minimum of 215 mm (8 ½ inches) by 275 mm (11 inches) in size with black block lettering on a white, yellow, or orange background. Do not use caution ribbons as a substitute for signs.

Conduct sampling according to NIOSH Method 7082 or equivalent for lead and other metals of concern at the pre-established boundaries of the regulated area(s). Collect the samples throughout an entire work shift upon commencement of the coating removal activities (at project-start-up).

If the monitoring confirms that project emissions at the established boundary do not exceed the Action Level as an eight-hour TWA, establish the boundary at that location and discontinue monitoring.

If the monitoring shows that the emissions exceed the Action Level, modify and improve work practices and containment to provide better controls over the emissions or reestablish the boundary at a different location. Repeat the monitoring in either case.

After the boundaries have been established through instrument monitoring, additional monitoring is not required unless directed, if suspect visible emissions occur, or there are changes to the work practices or equipment being used within the regulated areas. In these cases, conduct additional monitoring to confirm the adequacy of the control systems in place, and to verify the suitability of the existing regulated area(s).

Verify that cassettes are only analyzed by laboratories that have been accepted for use by the Department. Have the laboratory provide results within 72 hours of the field sampling. Provide the test results to the Department verbally within one day of receipt, and in writing within one week thereafter.

Verify that workers who enter the regulated area have had the proper training, blood analysis and medical examinations, and are wearing the required protective clothing and equipment. Prohibit eating, drinking, smoking, and chewing of food or tobacco products in areas where the exposures exceed the Action Level.

12. Histoplasmosis. Histoplasmosis is an infectious disease caused by inhaling the spores of a fungus called Histoplasma capsulatum. Protect workers exposed to bird manure (e.g. pigeon) or bat droppings according to National Institute for Occupational Safety and Health (NIOSH) Publication Number 2005-109.

13. Recordkeeping. Retain records related to training, medical examinations, blood analysis, exposure monitoring, respirator fit testing, inspections by a competent person, and other related project documentation on file at the project site.

Provide the Department with letter reports signed by a CIH that summarize examination results that are indicative of worker exposures to (or which demonstrate proper protection from) toxic metals. In the case of lead, summarize the blood lead and ZPP results, indicate observed trends, and identify worker removal provisions that were invoked based on the results. Workers should be identified by a unique identification number and not by name. Provide summary reports of the test results before worker exposures to project activities, periodic surveillance results, and results upon completion of site exposures. Provide a copy of each signed report within 10 calendar days after issuing the test results to the employees, and no later than 21 days of testing. Retain records for the duration of employment plus 30 years.

(i) Environmental Protection.

1. General. Conduct the work according to the Environmental Compliance Plan and Federal, state, and local regulations governing the protection of the public and the environment.
Remove visible abrasives, paint chips, and debris from the project site, even if the abrasives, paint chips, and debris were a pre-existing condition. Include the cost for clean-up of pre-existing debris in the bid.
Comply with Title 3 of the Philadelphia Code, the Air Management Code, for work occurring in Philadelphia County.

Comply with Philadelphia County Air Management Regulation II, Section VIII, (relating to Fugitive Dust), for work occurring in Philadelphia County.

Comply with Allegheny County - Article XXI, Rules and Regulations of Allegheny County Bureau of Environmental Quality, Section 2105.51 (relating to Abrasive Blasting), for work occurring in Allegheny County.

2. Assessment of Visible Emissions and Releases. Conduct fugitive emissions assessments as established in this Section according to 40 CFR 60, Appendix A, Method 22, Visual Determination of Fugitive Emissions from Material Sources and Smoke Emissions from Flares. These assessments are based on total fugitive emissions and cannot be used to determine the opacity of the emission.

Conduct visual inspections for releases or spills of dust and debris that have become airborne even when the paint being removed does not contain lead or other toxic metals.

Conduct visual inspections for releases or spills of dust and debris that have become deposited on surrounding property, structures, equipment or vehicles, and bodies of water, with special consideration of sensitive receptors identified in the Plan.

Comply with Federal, State, City, or County regulations and statutes regarding emissions of hazardous, visible or fugitive air contaminants, in addition to, but not as a replacement for, the requirements as specified in this Section.

3. Acceptance Criteria for Visible Emissions Assessments. Limit random visible (fugitive) emissions from project activities to an SSPC Level 0 (any sustained visible emission regardless of its duration) according to SSPC Technology Update No. 7. Conduct visible emission assessments according to 40 CFR 60, Appendix A, Method 22.

Immediately shut down the emission-producing activities if emissions in excess of the criteria stipulated in this Section are observed. Do not resume the emission-producing operations until the cause of the violation is corrected.

Immediately shut down the project and initiate corrective action if there are violations of high-volume ambient air monitoring, even if the visible emissions results are acceptable.

Clean up releases of dust and debris outside of the work area that have become deposited on surrounding property; on the unprotected ground, soil, water or sediment; around storm sewers or drains; or in areas where rainwater could carry the debris into storm sewers or drains immediately.

4. Frequency and Location of Visible Emission Assessments and Inspections. Conduct visual assessments according to this Section and SSPC Technology Update No.7.

Conduct the visible emissions assessments to account for locations where emissions might be generated, including but not limited to, the containment, dust collection and abrasive recovery equipment, and waste containerizing areas for at least a 15-minute duration during each observation period. Document the name of the assessor, the date and time, and the results of observations, even if no emissions are observed. Have the daily records available on site for Department review.

Conduct casual observations and corrections of visible and fugitive air contaminant emissions and releases of dust or debris on an ongoing daily basis but conduct the specialized assessments as described in this Section at least once per hour during dust producing activities.

Conduct casual observations at the project perimeter and adjacent and nearby properties, especially those identified in the Sensitive Receptor Survey, and correct fugitive emissions and releases of dust or debris on an ongoing daily basis.

5. Reporting of Visible Emissions. Report the results of the daily assessments in a logbook or other report form. Record the results of the assessments as soon as possible following the observations, but no later than the end of the work shift on that day. Maintain the logbook or reports on site for review by the Department.

Document cases where work has been halted due to unacceptable emissions or releases of visible, fugitive, or hazardous air contaminants or material, the cleanup activities invoked, and the corrective action taken to avoid a reoccurrence. Provide the written report to the Department within 48 hours of the occurrence.

6. High Volume Ambient Air Monitoring. When the work involves lead or other toxic metals in the paint or abrasive, conduct high volume ambient air monitoring for lead during coating removal and clean-up activities using the procedures specified in 40 CFR 50 Appendix B & G, and in compliance with this Section. Comply with the acceptance criteria established in City, Township, County, State or Federal regulations when applicable. Comply with the criteria below if there are no local regulations governing high volume ambient air monitoring for lead.

Ambient air monitoring is to be performed by an independent third-party monitoring firm.

TSP-Lead (Total Suspended Particulate-Lead) – The National Ambient Air Quality Standard for TSP-lead is 0.15 µg/m3 as a 90-day rolling average. However, for the purposes of evaluating the effectiveness of the containment system in limiting emissions, do not exceed 1.5 µg/m3 averaged over the specified sampling period detailed below. For the purposes of establishing a daily allowable limit, the acceptance criteria are extrapolated using the formulas identified in SSPC TU-7. Note that some local agencies establish their own acceptance criteria - do not exceed these criteria.

Place TSP-Lead ambient air monitors at the nearest location(s) required to ensure that the public's health is protected and to reduce public concerns, as specified in the Plan, and in the location(s) acceptable to the Representative or designee. In many cases, and as determined in the Sensitive Receptor Survey, more than one monitor may be required because the designated monitoring targets may be located at different distances and different directions from the work areas. On large structures, the required monitoring locations may change as the work areas change. The third-party monitoring firm will select air monitoring locations, subject to review and approval by the Representative or designee.

Conduct background ambient air monitoring daily for a period of 3 days before blasting. The 3 days of background ambient air monitoring is to be conducted for 8 hours each day, during the hours of the day when dust generating activities such as abrasive blasting will typically be performed. Identify the proposed background monitoring locations in the Environmental Compliance Plan. Background concentrations of TSP-lead may be subtracted from the acceptance criteria identified above.

Conduct daily full-time continuous ambient air monitoring for TSP-lead during dust producing operations that are performed within 500 feet of potential public receptors. After review of a minimum of two weeks of monitoring data, the Representative may approve suspension of the daily monitoring requirement. Resume daily ambient air monitoring if control problems with blasting emissions become apparent, as determined by visual assessments of the operation.

Instruct the third-party monitoring firm to provide analytical laboratory results within 72 hours after field sampling has been performed, unless local requirements are more stringent. Instruct the laboratory to analyze the filters according to 40 CFR 50, Appendix G and report results directly to the Department in micrograms per cubic meter. The report shall identify the monitoring locations and work activities performed for each sample collected.

If monitoring is conducted and the above criteria is violated, immediately stop work and make changes to the containment and work practices to achieve compliance. Note that exceedances may also result in City, Township, County, State or Federal violations.

7. Restrictions on Emissions to Ground (Soil), Water, and Sediment. Conduct activities so that releases to the soil, water, sediment, or storm sewers do not occur.

If particulate matter or debris is released beyond the containment or ground protection, immediately shut down the emission-producing operations until the cause of the emissions is corrected.

8. Cleaning Requirements. Remove project debris and litter from the project site and surrounding property, equipment, and structures.

When cleaning paint chips and dust that contain lead or other toxic metals, use vacuuming equipment equipped with HEPA filters, wet washing, or other means that will effectively remove the dust and debris without re-dispersing it into the air. Do not use compressed air for cleanup activities unless it is used in conjunction with a ventilation system designed to capture the airborne particulate.

Collect water used for cleaning and dispose of as specified in this Section.

9. Final Cleaning/Clearance Evaluations. Conduct a visual inspection of the project site and surrounding property and surfaces located within the likely dispersion zone of project dust and debris upon completion of project activities, and after equipment and materials have been removed.

Visually inspect the property and surfaces for the presence of debris including, but not limited to spent abrasives or other coating removal media, paint chips, materials of construction, fuel, and other litter.

Conduct a final visual inspection with the Representative after clean-up activities are completed.

Conduct additional cleaning identified by the Department. Consider the site properly cleaned when visible paint chips, spent abrasives and other coating removal media, fuel, materials of construction, litter, or other project debris are not visible on or around the project site.

Remove visible dust from the surface of the completed structure as well as from surrounding structures and equipment.

10. Report on Clearance Inspections. Prepare a letter report presenting the results of the inspections conducted to verify the final cleanliness of the project site, surrounding property, waterways, equipment, buildings, and structures. Provide the report to the Department within 7 days following the inspection.

Include a summary of problems or releases that occurred during the project, and the clean-up and corrective action measures that were taken to resolve the problem.

11. Reportable Releases.

11.a Clean Water Act. Reportable quantities of hazardous substances in waterways are addressed in Section 311 of the Clean Water Act. Report such releases to the Representative, the EPA according to 40 CFR 117 and 40 CFR 355, and the DEP. Notify the Fish and Boat Commission, and the Coast Guard, when applicable.

11.b CERCLA. Reportable quantities under CERCLA are found in 40 CFR 302. In the case of lead, the reportable quantity is a release of 4.5 or more kilograms (10 or more pounds) in a 24-hour period. If such releases occur, stop work immediately and notify the Representative, the DEP, and the National Response Center (800/424-8802).

11.c City of Philadelphia. If reportable releases or emissions pose an imminent danger to public health, safety, welfare, or the environment, or violate permit conditions, immediately notify the Department of Public Health, Air Management Services.

1072.4 MEASUREMENT AND PAYMENT—

(a) Waste Management. Lump Sum

Includes collection, testing, handling, storage, transportation and disposal of waste (hazardous, residual, and non-hazardous including wastewater). Partial payment may be made for this item. Payment will be made only after the Department receives properly executed waste disposal documentation, including certificates of disposal. If there are discrepancies in quantities or in any of the documentation requirements, payment will be withheld until the discrepancies are resolved.

(b) Containment. Lump Sum

Price includes containment and ventilation materials and equipment, engineering, drawings, and equipment or facilities needed to install, operate, move, clean, dismantle, and remove the containment system from the project site. Partial payments for containment will be made based on the percentage of the structure that has been prepared and fully primed. Environmental monitoring and protection are incidental to containment.

(c) Worker Health and Safety. Lump Sum

Price includes protection of Contractor personnel, including protective clothing and equipment, medical surveillance, hygiene facilities, laundering, establishment and maintenance or regulated areas, and documentation. Price also includes protective clothing and equipment for two Representatives at each site for each shift, as well as lead training according to 29 CFR 1926.62. Partial payments for worker protection will be made based on the percentage of the structure that has been prepared and fully coated.

C93A - a00093 Changes to Specifications: Section 1001

Addendum:

Associated Item(s):

Header:

Changes to Specifications: Section 1001

Provision Body:

SECTION 1001—CEMENT CONCRETE STRUCTURES

- **Section 1001.2(i) Other Material. Revise to read as follows:**

(i) Other Material.

- Premolded Expansion Joint Filler—Section 705.1
- Closed Cell Neoprene Sponge—Section 1107.02(p)1
- Joint Sealing Material—Section 705.4(b), (c), or (d)
- Waterstops—Section 705.5
- Caulking Compound—Section 705.8
- Reinforcement—Section 1002.2
- Steel Welded Wire Fabric (WWF)—Section 709.3
- Deformed WWF—Section 704.4
- Deformed and Plain Bar Dowels—Section 709.1
- Structural Steel—Section 1105
- Waterproofing—Section 680.2
- Coarse Aggregate, No. 57—Section 703.2
- Conduits and Conduit Protective Coating—Sections 1101.09(b) and (d)
- Selected Borrow Excavation—Structure Backfill, Section 205 and as shown on the Standard Drawings.
- Anchor Bolts—Section 1105.02(c)2
- Asphalt Material, Class RC 250—Section 702
- Geotextiles, Class 1—Section 735
- Polyethylene Sheeting—Section 505.2
- Asphalt Impregnated Paper—Section 727
- Asphalt Cement, PG 64S-22—Section 702
- Epoxy Binder Resin—Bulletin 15 approved epoxy based surface treatment for bridge decks, epoxy binder resin component only.
- Epoxy Bonding Compound—Section 706.1.

- **Section 1001.3(b)2 Steel WWF and Deformed WWF. Revise to read as follows:**

2. Steel WWF and Deformed WWF. Place as indicated. Lap ends and sides 12 inches. Fasten with annealed iron wire or metal clips.

- **Section 1001.3(k)6.d Concrete Placement and Finishing. Revise to read as follows:**

6.d Concrete Placement and Finishing. For rigid frame decks, place the concrete from the center of the span toward each leg or abutment simultaneously. Continuously check falsework or supporting beams so the concrete, as placed, meets the lines and grades indicated. Keep wedges and blocking tight during placement of the concrete.
Use a placing sequence as indicated in the contract drawings or as accepted by the Structure Control Engineer.
Unless allowed in writing by the District Executive, do not allow truck mixers, truck agitators, or other heavy motorized equipment on the deck spans in which concrete is being placed.
Provide sufficient materials at the work site, during concrete deck placement, to protect the bridge deck concrete against rain before initial set. If rain begins, stop placement operations and immediately cover the concrete with protective materials.
If it is necessary to stop operations, due to weather or operational conditions, provide full depth bulkheads at the work site, and place them as directed. Remove bulkheads before resuming concrete placement operations.
Obtain acceptance of changes or additions to indicated construction joints, before incorporating into the work.
Adjust the deck openings at expansion joints and at expansion dams at the time concrete is placed to provide the openings indicated at 68F under full dead load.

Do not allow screed or runway supports to bear on the forms, unless direct undersupport is provided to prevent form damage or deflection. Do not discharge concrete near side laps or at midspan of the corrugated sheets, to a depth greater than 10 inches above the top of the forms. Do not discharge concrete in a manner that causes excessive concentrated construction loads.
Place concrete, at a minimum rate of 20 linear feet of deck per hour, in a longitudinal direction, except for reinforced concrete slabs and rigid frames.
Vibrate the concrete to prevent honeycombing and voids, especially at construction joints, expansion joints, valleys, and ends of form sheets. Obtain acceptance of placing sequences, procedures, and mixes before placing concrete.
Repair or replace damaged material.
Conduct final finishing operations immediately behind the finishing machines or screeds from work bridges of rigid construction, not in contact with the surface of the concrete, set on rails, and easily moved. Finish with a 10-foot, long-handled straightedge to achieve a smooth surface. Make one pass of the float if the concrete surface remains open after the finishing machine operations. Do not overfinish concrete. Use of steel trowels and fresno floats are prohibited.
Perform straightedge testing and surface correction as specified in Section 501.3(k)3 while the concrete is workable. After completing the straightedge testing and surface corrections, before the concrete becomes nonplastic, manually texture/tine the surface transversely as specified in Section 501.3(k)4.b. Immediately after texturing/tining operations are completed, perform intermediate curing as specified in Section 1001.3(p)3.c.
When mechanical texturing is indicated, immediately after straightedge testing and surface correction, provide initial texturing with a burlap drag or broom device to produce striations parallel with centerline. Provide a drag that produces a uniform surface of gritty texture without blemishes, marks, tears and scratches deeper than 1/16 inch. Replace the drag as necessary to produce the desired finish. Water cure as specified in Section 1001.3(p)3.b.2 after the initial texturing operation.

- **Section 1001.4(b) Reinforcement. Revise to read as follows:**

(b) Reinforcement.
1. Reinforcement Bars. Section 1002.4
Dowel bars required for unplanned joints are incidental to other reinforcement.
2. Steel-WWF. Pound
Annealed iron wire, chairs, and ties are incidental to the weight of the steel wire fabric.
3. Deformed WWF. Pound
Annealed iron wire, chairs, and ties are incidental to the weight of the deformed wire fabric.

C94A - a00094 Changes to Specifications: Section 1085

Addendum:

Associated Item(s):

Header:
Changes to Specifications: Section 1085

Provision Body:
SECTION 1085—PRECAST REINFORCED CONCRETE BOX CULVERT

- **Section 1085.4(a) Precast Reinforced Concrete Box Culvert. Revise to read as follows:**

1085.4 MEASUREMENT AND PAYMENT—

(a) Precast Reinforced Concrete Box Culvert. Lump Sum
The price includes the following component items:

- **Cement Concrete.** Section 1001.4(a)
- **Deformed Welded Wire Fabric.** Section 1001.4(b)3

- **Precast Reinforced Concrete Box Culvert Segments.** Linear Foot
  The unit price includes post-tensioning, if indicated.
- **Reinforcement Bars.** Section 1002.4

- **Membrane Waterproofing.** Section 680.4

- **Selected Borrow Excavation - Structure Backfill.** Section 1001.4(g)

- **Rock Protection.** Section 850.4(a)
- **Protective Coating (Coal Tar Epoxy).** Square Yard

C95A - a00095 Changes to Specifications: Section 413

Addendum:

Associated Item(s):

Header:
Changes to Specifications: Section 413

Provision Body:

SECTION 413—SUPERPAVE MIXTURE DESIGN, STANDARD AND RPS CONSTRUCTION OF PLANT-MIXED ASPHALT COURSES WITH PERCENT WITHIN LIMITS AND LTS TESTING (PWL-LTS)

- **Section 413.3(a)1 Paving Operation QC Plan. Revise to read as follows:**

  1. Paving Operation QC Plan. Prepare a paving operation QC Plan, as outlined on Form CS-413, for field control and evaluation of asphalt concrete paving operations that addresses all recommendations and direction from the Technical Representative(s) associated with any WMA Technology being used. Submit the QC Plan to the Representative before or at the pre-construction conference. The QC Plan shall describe the construction equipment and methods necessary to construct and test the asphalt concrete courses as specified in Section 413.3. Do not start paving until after the Representative reviews the QC Plan.

  Section 413.3(b)1 Paving Season Extensions. Revise to read as follows:

  1. Paving Season Extensions. Submit requests in writing for paving outside of the dates listed in Section 413.3(b) at least 14 calendar days before performing any extended-season paving operations. With the written request, submit an Extended-Season Paving Plan on Form CS-413ES that addresses quality control operations in detail. The plan must address steps at the plant and in the field to ensure that a quality product will be delivered and constructed. Do not commence paving during the extended-season until the Representative reviews the Extended-Season Paving Plan.

  An extension of the paving season will be granted in writing by the District Executive with the following additional requirements:

- For all PG 64E-22 wearing and binder courses, >10 million ESALs wearing courses, 4.75 mm wearing courses, or other wearing courses placed at compacted depths less than 1.5 inches, paving may occur April 1 to November 15.
- For all other courses, paving may occur March 1 to December 15.
- Density acceptance will be by pavement cores, regardless of quantity, for mixtures placed at the minimum compacted depths in Table G. For pavements not meeting the requirements for pavement cores, density acceptance will be by optimum-rolling pattern. For non-RPS pavements, the Representative may waive the pavement core requirement at their sole discretion provided the contractor’s quality control efforts give confidence that optimum density has been achieved throughout the course.
- Utilize a Material Transfer Vehicle (MTV) as specified in Section 108.05(c)5 on any day when the paving length will exceed 1,500 linear feet, unless the Representative determines the MTV to be infeasible for the location.
- Use an approved asphalt JMF, according to the temperature restrictions specified in Section 413, Table A
- Do not ship material to the project until the Representative on the project releases the shipment.
- At least five days before extended-season paving, schedule an extended-season preplacement meeting with the Representative to review, at a minimum, the details of the Extended-Season Paving Plan.
- If the Representative determines that the Extended-Season Paving Plan is not being followed, stop paving operations, modify processes to comply with the Extended-Season Paving Plan, and communicate process modifications to the Representative. Do not resume paving operations until the Representative authorizes paving operations to continue.
- Within 24 hours of paving completion, provide Form CS-413EQC to the Representative with all documentation and measurements associated with the extended-season paving operations outlined in the Extended-Season Paving Plan. Payment will not be made until the documentation is received.
- Paving work completed during the fall portion of the Extended-Season will be subject to a spring evaluation and manual survey by the Department to be conducted by May 1. Manual surveys will be conducted according to Publication 336. The Department will evaluate the material and workmanship looking at characteristics of fatigue cracking, transverse and miscellaneous cracking, raveling/weathering, rutting, flushing, potholing, joint and edge deterioration, and loss of bond/delamination to determine acceptance or remedial action as outlined below:

Extended Season Paving Performance Requirements and Remedial Actions

Performance Criterion	Threshold Level	Remedial Action
Fatigue Cracking**	All low, medium or high severity*	Remove and replace as specified in Section 496, Table A
Transverse and Miscellaneous Cracking	All low to medium severity*	Crack seal as specified in Section 469
	All high severity*	Remove and replace as specified in Section 496, Table A
Raveling/Weathering	All medium or greater severity*	Remove and replace as specified in Section 496, Table A
Rutting	> ¼ inch	Remove and replace as specified in Section 496, Table A
Flushing	All	Remove and replace as specified in Section 496, Table A
Potholes, Loss of Bond, Delamination	All	Remove and replace as specified in Section 496, Table A for Potholes
Longitudinal Joint or Edge Joint Deterioration	All low severity*	Crack seal as specified in Section 469
	All medium or greater severity*	Remove and replace distressed layer full lane width on both sides transversely of the distressed area and a minimum of 24 inches beyond the distressed area in all longitudinal directions.

* The Threshold Level according to Publication 336.

** Fatigue cracking will only be considered in those portions of the pavement under which the contractor has performed base course placement operations

The Department will solely make the determination and notify the Contractor whether the work is accepted or remedial action is required. The contractor may witness the manual performance survey. As specified in 413.3(o), the BOPD, CMD will review representative determinations of defective material or workmanship. Remove and replace or repair defective work as directed at no additional cost to the Department. Should the distance between repair areas be less than 100 feet, make one continuous repair. All repairs must meet the surface tolerance requirements as specified in Section 413.3(l).

- A Final Acceptance Certificate will not be issued for paving completed during the extended season until the spring evaluation and any repair work is completed.
- Any necessary changes to means, methods, or materials are at no additional cost to the Department. Complete all work by the Required Completion Date or Construction Engineering Liquidated Damages, as specified in Section 108.07(a), will apply. If repairs are required following the spring evaluation, liquidated damages will not be applied during the winter shutdown period on the project and will be applied during the repair and associated work period.

C96A - a00096 Changes to Specifications: Section 633

Addendum:

Associated Item(s):

Header:
Changes to Specifications: Section 633

Provision Body:
SECTION 633—PLAIN CONCRETE MOUNTABLE CURB

- **Section 633.4(c) Plain Cement Concrete Pavement. Revise to read as follows:**

(c) Plain Cement Concrete Pavement. Section 501.4

C97A - a00097 Changes to Specifications: Section 207

Addendum:

Associated Item(s):

Header:
Changes to Specifications: Section 207

Provision Body:

SECTION 207—BLASTING FOR ROCK CUT SLOPE EXCAVATION

- **Section 207.2(a)1 Stemming. Revise to read as follows:**

1. Stemming. Coarse Aggregate, Type A, AASHTO No. 8. Section 703.2.

C98A - a00098 Changes to Specifications: Section 1042

Addendum:

Associated Item(s):

Header:
Changes to Specifications: Section 1042

Provision Body:

SECTION 1042—LATEX MODIFIED MORTAR OR CONCRETE WEARING SURFACE

- **Section 1042.3(c)4 Latex Placement and Finishing. Revise to read as follows:**

4. Latex Placement and Finishing. Immediately before placement of the latex, thoroughly wet the clean surface for a period of not less than one hour. Vacuum standing water in depressions, holes or areas of concrete removal. Maintain prepared deck in a damp, puddle-free condition. Use a fogger/mister to dampen visible dry spots before the latex placement.

Brush/broom damp vertical surfaces with latex grout. For horizontal surfaces not prepared with hydrodemolition that will be in contact with the latex overlay, brush/broom damp horizontal surfaces with latex grout. When using latex concrete, collect and discard excess aggregate. Do not over-extract grout from the mix to the point that the grout becomes diluted. If directed, apply a second brushed/broomed coat of grout to areas where grout is diluted by excessive surface moisture. Immediately remove material from the deck that is not properly mixed or proportioned, or lacks component material, and regrout the area. Ensure brushed/broomed surfaces receive a thorough, even coating of latex grout and that the rate of progress is limited so that the brushed/broomed material does not become dry before it is covered with additional material, as required for the final grade.

Place and strike-off the mixture to approximately 1/4 inch above final grade. Vibrate latex in front of finishing machine. For hydrodemolitioned surfaces, snake vibrator through latex at no more than 12 inch passes. Vibrate edges, adjacent to joint bulkheads and expansion dams, in depressions, and in areas of bridge deck repair. Fill and consolidate each Type 2 deck repair placed concurrently with the overlay before the advancement of the overlay placement operation. Finish to final grade with the approved finishing equipment. Hand-finishing with a float may be required along the edge of the placement or on small areas of repair. Edge-tooling is required at joints, metal expansion dams, curbs, and previously placed lanes. Place latex continuously and complete the finishing of each area within 15 minutes after the initial brooming. Provide finish with a closed surface, free of pock marks, ridges, tears, and other defects. Place latex at a minimum rate of 20 linear feet of deck per hour, in a longitudinal direction.

When placing latex against latex that has not achieved initial set, but has formed a surface crust or film, remove the surface crust until plastic latex is exposed, place fresh latex against the exposed surface and consolidate both until homogeneous.

Separate screed rails and construction bulkheads from the newly placed material by passing a pointing trowel along their inside face. Do not separate metal expansion dams from the wearing surface. Ensure that this trowel cut is made for the entire depth and length of rails after the mixture has stiffened sufficiently.

Conduct operations behind the finishing machines or screeds from work bridges suspended above the wearing surface. Provide work bridges of rigid construction. Do not allow work bridges to come into contact with the surface of the latex.

Perform straightedge testing, surface correction and edging while the latex is still workable as specified in Section 501.3(k)3. After the straightedge testing and surface corrections have been completed and before the latex becomes nonplastic, manually texture/tine the surface transversely as specified in Section 501.3(k)4.b if mechanical texturing is not indicated. Cure the wearing surface as soon as possible without marking the fresh latex. After the latex has hardened, test the surface again as specified in Section 501.3(o). Resound the deck if directed.

When mechanical texturing is indicated, perform as specified in Section 1001.3(k)6.f. Do not begin grooving operations until directed, the latex has reached a compressive strength of 3,000 psi according to PTM No. 604, the grooving equipment live loads can be applied as specified in Section 1042.3(g), and until the surface tolerance has been checked and high points are removed as specified in Section 501.3(o).

Provide adequate lighting, as indicated on the field operation QC Plan, for placement not completed in the daylight. Ensure lighting allows proper placement, testing, and inspection operations of the entire surface area and until curing covers are placed over the surface area.

C99A - a00099 Changes to Specifications: Section 1005

Addendum:

Associated Item(s):

Header:
Changes to Specifications: Section 1005

Provision Body:

SECTION 1005—PILES

- **Section 1005.4(a) Test Piles. Revise to read as follows:**

(a) Test Piles. Each

The Department will pay for each test pile, including necessary cutting off, splicing, and rebuilding to the indicated test pile length. The price includes necessary excavation for pile splicing, rebuilding, and extending; pile driving equipment furnished on the project; costs of transporting the equipment to the project; erecting, maintaining, and moving the equipment within the project; and dismantling and removing the equipment from the project, and pile tip reinforcement.
If any portion of a test pile is indicated to be galvanized, the entire length of the pile will be paid under the galvanized test pile item unless indicated.
Additional test piles and extensions in excess of the indicated number and length will be measured and paid for by the linear foot price of corresponding production piles. The excess length will be measured from the estimated pile tip elevation to the elevation of the final driven tip end for test piles driven below the estimated pile tip elevation, or from the cutoff elevation to the final driven tip end for additional test piles not indicated.
For test piles specified in the proposal but not required to be placed, adjustment of payment will be made as specified in Section 110.02. Cutoff portions of test piles will remain the property of the Contractor.
Costs associated with the use of proximity switches for the monitoring of piles, as specified, will be incidental to the price bid for test piles.

C100A - a00100 Changes to Specifications: Section 1046

Addendum:

Associated Item(s):

Header:
Changes to Specifications: Section 1046

Provision Body:

SECTION 1046—EPOXY OVERLAY

- **Section 1046.3(1) Acceptance. Revise to read as follows:**

(l) Acceptance.

Table E

Acceptance and Payment Factor Per Each Individual Layer of Epoxy Overlay

Binder Rate	Item Pay Factor (%)
100% or more of the minimum binder rate	100% payment
> 80% and < 100% of minimum binder rate	60% payment
< 80% of minimum binder rate	remove and replace

C101A - a00101 Changes to Specifications: Section 107

Addendum:

Associated Item(s):

Header:
Changes to Specifications: Section 107

Provision Body:
SECTION 107—LEGAL RELATIONS AND RESPONSIBILITY TO THE PUBLIC

- **Section 107.01 Laws to Be Observed. Revise to add the following.**

(a) Bulletin Board. On Federally Funded mobile operation projects with no field office or staging area, the contractor must display and provide all notices and posters where hiring is conducted. Each employee must be provided copies of all notices and posters and sign Form EO-107, Bulletin Board Acknowledgment Signature Sheet, acknowledging they have received and understood the content of all the notices and posters. A Contractor's Representative shall then sign Form EO-107 acknowledging that all required notices and posters are displayed at the hiring location and that all employees on the signature sheet have received copies and understand the content of these notices and posters. Maintain a copy of the form at all times on the project and submit a copy of the completed Form EO-107 in PPCC for PennDOT and FHWA review.

G101H - a00101 GOVERNING SPECIFICATIONS AND APPLICABLE DESIGNATED SPECIAL PROVISIONS

Addendum:

Associated Item(s):

Header:
GOVERNING SPECIFICATIONS AND APPLICABLE DESIGNATED SPECIAL PROVISIONS

Provision Body:

I. GOVERNING SPECIFICATIONS. This bid proposal is made under, subject to, and governed by:

Specifications 408/2020, Initial Edition, effective date April 10, 2020 of the Pennsylvania Department of Transportation. Within these Specifications where dual measurement and tabular options are presented English standards apply.

II. APPLICABLE DESIGNATED SPECIAL PROVISIONS. The following Designated Special Provisions are found in Appendix C to the above Governing Specifications. Those that apply to this bid proposal are preceded with a check (i.e., "***X***"). Goals, minimum levels of participation, or other project specific requirements associated with these documents are also established where applicable:

(_X_) DSP1. Offset Provision for State Contracts.

(_X_) DSP2. Contractor Responsibility Provisions.

(_X_) DSP3. Provisions for State Contracts Concerning the Americans with Disabilities Act.

(__) DSP4. Diverse Business (DB) Requirements for Non-Federally Funded Construction Projects.

(_X_) DSP7. Disadvantaged Business Enterprise (DBE) Requirements for Federally-Funded Construction Projects. In conjunction with this contract a goal of 10% of the original contract amount has been established.

(_X_) DSP8. F.A.R. - Required Contract Provisions Federal-Aid Construction Contracts FHWA-1273 (Revised May 1, 2012). Also attached to the Proposal/Contract.

(_X_) DSP9. Special Supplement - Anti-Pollution Measures - August 26, 1999.

(_X_) DSP10. Nondiscrimination/Sexual Harassment Clause.

(_X_) DSP11. Contractor Integrity Provisions.

(_X_) DSP12. Executive Order 11246, with Appendix A and B.

(_X_) DSP13. Buy America.

(_X_) DSP14. Enhanced Minimum Wage Provisions.

C102A - a00102 Changes to Specifications: Section 405

Addendum:

Associated Item(s):

Header:

Changes to Specifications: Section 405

Provision Body:

SECTION 405—EVALUATION OF ASPHALT PAVEMENT LONGITUDINAL JOINT DENSITY AND PAYMENT OF INCENTIVE/DISINCENTIVE

- **405.1 DESCRIPTION. Revise to read as follows:**

405.1 DESCRIPTION—This work is evaluating asphalt pavement longitudinal joint samples on the surface wearing course for determining densities and the incentive/disincentive.

- **405.3(a) General Requirements. Revise to read as follows:**

(a) General Requirements. Longitudinal joint density lots will be established as specified in Section 405.3(b). These incentive/disincentive lots are completely independent from lots defined in other sections of these Specifications for pavement acceptance. The Representative will determine the payment addition or deduction.

- **405.4 MEASUREMENT AND PAYMENT. Revise to read as follows:**

405.4 MEASUREMENT AND PAYMENT—Dollar
The proposal will include an item and a predetermined amount of money for Evaluation of Asphalt Pavement Longitudinal Joint Density and Payment of Incentive/Disincentive. The Contract item will have a unit of measure of DOLLAR, a unit price of $1.00, and a quantity equal to the predetermined amount. When asphalt pavement longitudinal joint density evaluation indicates that a disincentive adjustment is applicable, the appropriate amount will be deducted from money due or to become due to the Contractor through the processing of a contract adjustment.
Due to the incentive or bonus status of the payment being made the provisions of Section 110.02(d) are not applicable to this item.
Measured and paid for, under the Evaluation of Asphalt Pavement Longitudinal Joints and Payment of Incentive item as follows:
For each lot Table A will be used to determine the incentive/disincentive payment for longitudinal joint density.
The incentive/disincentive payment for a lot containing other than 5 sublots will be determined as a percentage of a full 12,500 feet lot, by the following:

N=3 (60% of the Table A amount)
N=4 (80% of the Table A amount)
N=6 (120% of the Table A amount)
N=7 (140% of the Table A amount)

For a full lot with a PWL ≥ 81, the Contractor will receive a prorated positive incentive payment up to a maximum of $7,500 calculated according to Table A.
For a full lot with a PWL ≤ 49, the Contractor will receive a prorated negative adjustment (disincentive) up to a maximum of $12,500 for the longitudinal joint lot calculated according to Table A. Lots with PWL ≤ 49 and average density ≥ 90.0 % will be assessed a disincentive up to a maximum of $1,000 per sublot regardless of PWL.
Costs associated with providing joint pavement cores will not be paid for separately and will be considered incidental to the construction items for the wearing courses eligible for the longitudinal joint evaluation

TABLE A

Lot by Lot Payment Schedule for Longitudinal Joint Incentive/Disincentive	
Lot PWL	**Amount**
PWL ≥ 81	(PWL -80)/20 x $7,500 (Incentive)
PWL = 50 to 80	$0
PWL ≤ 49	(50-PWL)/50 x -$12,500 (Disincentive)

C103A - a00103 Changes to Specifications: Section 705

Addendum:

Associated Item(s):

Header:
Changes to Specifications: Section 705

Provision Body:

SECTION 705—JOINT MATERIAL

- **705.3(a)1. Coated Dowel Bars and Supporting Members. Revise to read as follows:**

1. Coated Dowel Bars and Supporting Members. Section 709.1(a)2, or ASTM A513, and AASHTO T 253 Section 5, or Structural adequacy testing according to PTM No. 642 showing a maximum Linear Variable Differential Transformers (LVDT) differential deflection for dynamic and

static loading, for both the approach and leave sides of the joint of not more than 7.5 mils at 1 million cycles and not greater than a 2.5-mil increase in the LVDT differential deflection at 10 million cycles from the corresponding 1 million cycle LVDT deflection. The differential deflection is the absolute difference in deflection between the loaded and unloaded sides of the joint.
Provide bars with their free end a true circle and without burrs.

- **705.3(b) Dowel Bar Coating. Revise to read as follows:**

(b) Dowel Bar Coating. AASHTO M 254 modified as follows:
Provide fusion-bonded epoxy coating as a Type B coating with a minimum nonabraded thickness of 8 mils. No more than 2 holidays per linear foot average, as detected with a 67.5 V holiday detector, are allowed. Repair areas damaged during shipment, handling, fabrication, or placement. The sum of all damaged areas to be repaired per linear foot may not exceed 2% of the bar surface area per linear foot. Repair all visible signs of rust and all visible defects. Repair is accomplished by means of a mechanical wire brush cleaning, or another acceptable procedure, followed by application of an approved epoxy paint utilizing the paint manufacturer's recommended procedure. Do not cover more than 5% of the total bar surface area with patching material.

- **Section 705.3(f) High Performance Dowel Bars. Revise to read as follows:**

(f) High Performance Dowel Bars. As shown on the Standard Drawings and as follows:

1. Physical Requirements. Provide dowel bars or tubes with a smooth-finished surface meeting the requirements of Table A and as follows:

- Diameter of 1.5 inches or 1.25 inches (+ 0.25 inch, - 0.001 inch) as shown on the Standard Drawing RC-20M or as indicated.
- Length of 18 inches (+/- 1/2 inch)
- For tubular dowels, provide nonmetallic or epoxy coated metallic caps on the ends of the tube that do not exceed the outside diameter of the tube, and prevent intrusion of concrete or other materials.
- Submit structural adequacy testing according to PTM No. 642 showing a maximum Linear Variable Differential Transformers (LVDT) differential deflection for dynamic and static loading, for both the approach and leave sides of the joint of not more than 7.5 mils at 1 million cycles and not greater than a 2.5-mil increase in the LVDT differential deflection at 10 million cycles from the corresponding 1 million cycle LVDT deflection. The differential deflection is the absolute difference in deflection between the loaded and unloaded sides of the joint.

Table A – High Performance Dowel Bar Requirements

Dowel Surface Material	Configuration	Solid Bar or Tube Material		Cladding or Coating Material	
		Material	Minimum Wall Thickness (in.)	Material	Minimum Wall / Coating Thickness (in.)
Stainless Steel	Solid Bar	Stainless Steel[1]	—	—	—
	Clad Bar	Steel[2]	—	Stainless Steel[1][4]	0.04
	Clad Tube	Steel[2]	0.12	Stainless Steel[1][4]	0.04
	Solid Tube	Stainless Steel[1]	0.12	—	—
Zinc Clad	Clad Bar	Steel[2]	—	Rolled Zinc Alloy[5]	0.04
	Clad Tube	Steel[2]	0.12	Rolled Zinc Alloy[5]	0.04
Glass Fiber-Reinforced Polymer Coated (GFRP)	Coated Bar or Tube	Steel[2]	—	GRFP[3]	0.125
Multi-Layer Epoxy Coated	Coated Bar or Tube	Steel[2]	—	Minimum 2 Coats of Epoxy[6]	0.02

1. ASTM A955, Grade 60 or higher for solid steel dowels. For tubular dowels, ASTM A312 for solid tubular dowels, and ASTM A249 for clad tubular dowels meeting one of the following UNS Designations: S31603, S31653, S31803.
2. ASTM A615, Grade 40 or higher for solid steel dowels, or ASTM A513 with a minimum yield strength of 60 kips per square inch or higher for tubular dowels.
3. GFRP coating according to the requirements of Section 3 of AASHTO LRFD Bridge Design Guide Specification for GFRP Reinforced Concrete Bridge Decks and Traffic Railings. Provide clips that firmly hold the GFRP dowel bars in the Load Transfer Unit. Provide clips to positively secure the GFRP dowels to the Load Transfer Unit. Do not weld GFRP dowel bars to Load Transfer Unit.
4. Press fit the stainless steel tube using an epoxy adhesive between the tube and the carbon steel core.

5. Rolled zinc alloy (U.N.S. Z41121) sleeve mechanically bonded to a steel bar or tube.
6. Provide epoxy coated bars with a minimum of two layers of epoxy coating. Provide epoxy coating according to ASTM A934 for the first epoxy coating layer and an abrasion resistant second epoxy layer passing NACE TM0215 using 110 pound weight, and the Smooth Cut Carbide Bit gouge tool with a maximum gouge depth of 17.3 mils. Provide a total non-abraded epoxy coating thickness of 20 mils to 60 mils. Zero holidays are allowed. Weld areas used for dowel basket attachments must be ground for welding, and cleaned, and recoated after welding. Remove and replace dowel bars that have epoxy coating damaged (including the ends of the dowels) during shipment, handling, fabrication, or placement, prior to paving.

2. Alternate Shaped Coated Dowel Bars. Bars with properties equivalent to conventional, round steel coated dowel bars, may be used, if documentation of conformance to applicable requirements of Section 705.3(f) are accepted by LTS.

3. Bond Breaking Requirements. AASHTO M 254

3.a. Type A. Coating material develops sufficiently low bond strength with concrete so that a bond breaker is not necessary.
3.b. Type B. Coating material develops bond strength with concrete so that a bond breaker is necessary. Shop-applied bond breakers are to conform to the pull-out load requirements of AASHTO M 254.

- **Section 705.4(a) Silicone Joint Sealing Material. Revise to read as follows:**

(a) Silicone Joint Sealing Material. Low modulus, non-sag-silicone, sealing material in a nonacid-curing, one-part formulation, which requires tooling, from a manufacturer listed in Bulletin 15. Furnish silicone joint sealing material conforming to the following physical requirements:

• Tensile Stress at 150% elongation, pounds per square inch, max. (ASTM D412, Die C) 7-day cure at 77F ± 3F and 45% to 55 % relative humidity	45
• Elongation at maximum tensile strength, %, min. (ASTM D412, Die C)	600
• Extrusion rate, grams/minute, min. 0F to 100F (Test for extrusion using an air-powered caulking gun, having a 1/8-inch orifice, at 90 pounds per square inch)	75
• Specific gravity (ASTM D792, Method A)	1.010 to 1.515
• Durometer hardness, shore “A” (ASTM D2240) 7-day cure at 77F ± 3F and 45 to 55% relative humidity.	10 to 25 @ 0F
• Shelf life, days, min., from date of manufacture.	180
• Ozone and ultraviolet resistance (ASTM C793)	No chalking, cracking, or bond loss after 5000 hours.
• Flow (ASTM C639-Type II)	Nil
• Bond to cement mortar, pounds per square inch, min., primed if required. (Mold three cement mortar briquets according to AASHTO T 132 and moisture cure for at least 28 days. Saw briquets in half, clean, and oven dry to a constant weight in an oven at 110 °C ± 5 °C. After cooling, bond halves together with approximately 10 mils of silicone sealant, cure 7 days at 77F ± 3F and 45 to 55% relative humidity, and test using clips conforming to AASHTO T 132. Test specimens in tension at loading rate of 0.3 inch/minute.	50
• Tack free time, minutes, max. (ASTM C679)	90
• Movement capability and adhesion (ASTM C719)	Cyclic movement: +100% / -50%

	(extension/compression), no adhesive or cohesive failure after 10 cycles @ 0F

- **Section 705.4(b) Rubberized Joint Sealing Material. Revise to read as follows:**

(b) Rubberized Joint Sealing Material. From a manufacturer listed in Bulletin 15, use ASTM D6690-Type II or Type IV for sealing asphalt pavement joints. Use only ASTM D6690-Type IV for all other joint sealing applications.

- **Section 705.4(f)2 Properties. Revise to read as follows:**

2. Properties. Determine using a skinless sample.

· Density, pounds per cubic inch.	6.0-10.0
· Compressive deflection (ASTM D7174)	
· Pressure (Load) necessary to compress the test specimen 25%	min. 5 pounds per square inch
· Pressure (Load) necessary to compress the test specimen 65%	max. 30 pounds per square inch
· Recover, % of original, min. 65% deflection, calculated after 60 seconds of relaxation form deflection return.	95%
· Water absorption, max.	30% vol.

- **705.5(c)2.a. Physical Requirements. Revise to read as follows:**

2.a Physical Requirements.

• Manufactured from virgin polyvinyl chloride resin with the addition of only those plasticizers, stabilizers, and other materials necessary to ensure aging stability and in place durability.	
· Not factory scrap or reclaimed polyvinyl chloride.	
· Brittleness temperature, ASTM D746	-20F max.
· Modulus of flexure, ASTM D747, pounds per square inch.	400 min.
· Tensile strength, ASTM D412, Die C original, pounds per square inch. Across job splice, pounds per square inch.	1,000 min. 1,150 min.
· Elongation Original, percent Across job splice, percent	280 min. 200 min.
· Tear strength, ASTM D624, Die B Original, pounds per inch.	260 min.
· Oven aging, ASTM D573, 70 hours at 212F Change in tensile strength, percent change Change in elongation, percent change	20 max. 20 max.
· 14 Day extraction, 140F/150F Change in tensile strength, percent change Change in elongation, percent change	40 max. 40 max.

G113B - a00113 CONTRACT PROVISIONS - RIGHT-TO-KNOW LAW

Addendum:

Associated Item(s):

Header:
CONTRACT PROVISIONS - RIGHT TO KNOW LAW

Provision Body:

l. Contract Provisions – Right to Know Law 8-K-1532

a. The Pennsylvania Right-to-Know Law (RTKL), 65 P.S. §§ 67.101-3104, applies to this Contract.

b. If the Department needs assistance in any matter arising out of the RTKL related to this Contract, the Department will notify the Contractor using the legal contact information provided in this Contract. The Contractor, at any time, may designate a different contact for such purpose upon reasonable prior written notice to the Department.

c. Upon written notification from the Department that it requires assistance in responding to a request under the RTKL for information related to this Contract that may be in the Contractor's possession, constituting, or alleged to constitute, a public record in accordance with the RTKL ("Requested Information"), the Contractor will:

1. Provide the Department, within 10 calendar days after receipt of written notification, access to, and copies of, any document or information in the Contractor's possession arising out of this Contract that the Department reasonably believes is Requested Information and may be a public record under the RTKL; and

2. Provide such other assistance as the Department may reasonably request, in order to comply with the RTKL with respect to this Contract.

d. If the Contractor considers the Requested Information to include a request for a Trade Secret or Confidential Proprietary Information, as those terms are defined by the RTKL, or other information that the Contractor considers exempt from production under the RTKL, notify the Department and provide, within 7 calendar days of receiving the written notification, a written statement signed by a representative of the Contractor explaining why the requested material is exempt from public disclosure under the RTKL.

e. The Department will rely upon the written statement from the Contractor in denying a RTKL request for the Requested Information unless the Department determines that the Requested Information is clearly not protected from disclosure under the RTKL. Should the Department determine that the Requested Information is clearly not exempt from disclosure, provide the Requested Information within 7 calendar days of receipt of written notification of the Department's determination.

f. Failing to provide the Requested Information within the time period required by these provisions, indemnify and hold the Department harmless for any damages, penalties, costs, detriment or harm that the Department may incur as a result of this failure, including any statutory damages assessed against the Department.

g. The Department will reimburse the Contractor for any costs associated with complying with these provisions only to the extent allowed under the fee schedule established by the Office of Open Records or as otherwise provided by the RTKL if the fee schedule is inapplicable.

h. The Contractor may file a legal challenge to any Department decision to release a record to the public with the Office of Open Records, or in the Pennsylvania Courts, however, indemnify the Department for any legal expenses incurred by the Department as a result of such a challenge and hold the Department harmless for any damages, penalties, costs, detriment or harm that the Department may incur as a result of the failure, including any statutory damages assessed against the Department, regardless of the outcome of such legal challenge. As between the parties, agree to waive all rights or remedies that may be available as a result of the Department's disclosure of Requested information pursuant to the RTKL.

i. The Contractor's duties relating to the RTKL are continuing duties that survive the expiration of this Contract and continue as long as the Requested Information remains in the Contractor's possession.

G311A - a00311 ROAD USER LIQUIDATED DAMAGES (RULD)

Addendum:

Associated Item(s):

Header:

ROAD USER LIQUIDATED DAMAGES (RULD)

Provision Body:

Road User Liquidated Damages (RULDs) will be assessed as specified in Section 108.07(b) and as follows:

Unrestricted traffic is defined as opening the roadway/structure full width including shoulders and ramps as approved by the Representative with no further need for traffic restrictive devices.

24 hours in advance of the completion of portions of the work which control the assessment of liquidated damages, notify the Representative so that a mutual inspection can be performed. If the Representative determines that the work is completed satisfactorily, the travel lanes will be opened to unrestricted traffic and no further liquidated damages will be assessed for that portion of work.

Damage charges as outlined below will be assessed independent of and concurrent with, as appropriate, Construction Engineering Liquidated Damages (CELD) as specified in Section 108.07(a).

RULDs as specified will be deducted from money due or to become due.

Milestone - Phase Compliance

RULDs in the amount of ***$6,000/day*** will be assessed for each day or portion of day that ***Phase 1 of SR 0099-012*** is not open to unrestricted traffic after ***99 calendar days*** from the date on which the phase is initiated.

RULDs in the amount of ***$6,000/day*** will be assessed for each day or portion of day that ***Phase 2 of SR 0099-012*** is not open to unrestricted traffic after ***59 calendar days*** from the date on which the phase is initiated.

RULDs in the amount of ***$6,000/day*** will be assessed for each day or portion of day that ***Phase 3 of SR 0099-012*** is not open to unrestricted traffic after ***49 calendar days*** from the date on which the phase is initiated.

RULDs in the amount of ***$6,900/day*** will be assessed for each day or portion of day that ***Phase 4 of SR 0099-012*** is not open to unrestricted traffic after ***59 calendar days*** from the date on which the phase is initiated.

Milestone - Winter Shutdown Compliance

RULDs in the amount of ***$16,400/day*** will be assessed for each day or portion of day that ***SR 0099-012*** is not open to unrestricted traffic after ***November 1, 2021 and prior to April 1, 2022***.

G1601A - a01601 E.E.O. COVERED AREA

Addendum:

Associated Item(s):

Header:
E.E.O. COVERED AREA

Provision Body:

For the purpose set forth in the Executive Order 11246 the covered area for this contract is:

Bedford and Blair County,

which is within the Economic Area of Pittsburgh PA

as listed in Appendix B of Designated Special Provision 12 (DSP12) entitled “Executive Order 11246 (with Appendix A and B)” in Appendix C of Pub 408.

G4301D - a04301 UTILITIES--THE REQUIREMENT TO LIST INFORMATION

Addendum:

Associated Item(s):

Header:
UTILITIES--THE REQUIREMENT TO LIST INFORMATION

Provision Body:

I. Cooperate with the public utility companies and local authorities in the placement, replacement, relocation, adjustment, or reconstruction of their structures and facilities during construction. Contact all utility representatives at least 15 calendar days before starting operations.

PRIOR	Anticipated completion before the Notice to Proceed is issued. Use actual or anticipated completion date shown.
RESTRICTIVE	To be completed by the utility or string of utilities before operating without restriction. Number of calendar days will start from the actual notice to proceed that is issued to the contractor.
CONCURRENT	Simultaneous with, but not restricting, operations. Number of calendar days required.
COORDINATED	Phasing with specific construction operations. Number of calendar days required after completion of specific construction operations.
NOT AFFECTED	Identifies utility with facilities in the construction area not anticipated to be affected. Specific information may be provided by the utility.
INCORPORATED	Utility relocation work to be incorporated into the prime highway construction contract.
CONDITIONAL RESTRICTIONS AND TIME REQUIREMENTS	Identify conditions affecting the utility's ability to perform a certain type of utility relocation work, i. e., certain times of the day, week, or year that a facility cannot be shut down, acquisition of Right-of-Way by the state, or demolition of buildings.

BEDFORD TOWNSHIP MUNICIPAL AUTHORITY

Contact: Amy Melius , telephone 814-623-7879

NOT AFFECTED: (U/G) SR 0099, SB Seg. 0011 Off. 0879, NB Seg. 0010 Off. 0929

NOT AFFECTED: (U/G) SR 0099, SB Seg. 0011 Off. 0139, NB Seg. 0010 Off. 0184

Not affected by scope of work to remain in place through construction.

Adjust borings/excavation as needed to not impact utilities.

SAINT CLAIRSVILLE AREA WATER COMPANY

Contact: Jim Waybright, telephone 814-496-3396

NOT AFFECTED: (U/G) SR 0099, SB Seg. 0075 Off. 0300, NB Seg. 0074 Off. 0380

Not affected by scope of work to remain in place through construction.

Adjust borings/excavation as needed to not impact utilities.

SUNOCO PIPELINE LP

Contact: Dave Urish, telephone 814-947-8300

NOT AFFECTED: (U/G) SR 0099, SB Seg. 0025 Off. 0971, NB Seg. 0024 Off. 1013

Not affected by scope of work to remain in place through construction.

Adjust borings/excavation as needed to not impact utilities.

UGI CENTRAL PENN GAS, INC.

Contact: Steve Brumbaugh, telephone 814-577-6859

NOT AFFECTED: (U/G) SR 0099, SB Seg. 0011 Off. 2426, NB Seg. 0010 Off. 2492

Not affected by scope of work to remain in place through construction.

Pipeline on bridge over I99. Needs site visit with contractor PRIOR to work being under bridge to determine construction inspection impacts.

UNITED TELEPHONE CO OF PA LLC DBA CENTURYLINK

Contact: John Reynolds, telephone 814-310-0768

NOT AFFECTED: (U/G) SR 0099, SB Seg. 0071 Off. 0776, NB Seg. 70 Off. 0865

Not affected by scope of work to remain in place through construction.

Adjust borings/excavation as needed to not impact utilities.

NOT AFFECTED: (Aerial) SR 0099, SB Seg. 0101 Off. 0570, NB Seg. 0100 Off. 0654

Not affected by scope of work to remain in place through construction.

G4802A - a04802 INDEX PRICE FOR DIESEL FUEL

Addendum:

Associated Item(s):

Header:
Index Price for Diesel Fuel

Provision Body:

The index price for diesel fuel (FB), as determined by the Department, is $1.18/Gal. Use this index price in accordance with Section 110.12 PRICE ADJUSTMENT FOR DIESEL FUEL COST FLUCTUATIONS.

N10214A - a10214 NOTICE TO CONTRACTORS: REVISED DESCRIPTION PAY ITEMS

Addendum:

Associated Item(s):

Header:
NOTICE TO CONTRACTORS: REVISED DESCRIPTION PAY ITEMS

Provision Body:

NOTICE TO CONTRACTORS: REVISED DESCRIPTION PAY ITEMS

This notice is to inform the Contractor that pay items in this contract may have a different pay item description shown in the bid documents than what is indicated in the plan sheets.

Descriptions for certain active pay items have been revised to reflect terminology used in Publication 408/2020. For example, the word “BITUMINOUS” was changed to the word “ASPHALT”, HMA and WMA were removed from the item descriptions, and name changes were made for the Performance Grade (PG) shown in item descriptions.

Pay item number, usage, and measurement and payment have not been changed for these “Revised Description” pay items. Only the pay item description was revised.

Attachment titled “Item Description Changes” is a list of pay items with the different descriptions that may be present on this project. These descriptions are for cross referencing only.

The Contractor is required to perform work in accordance with the Publication 408 version in effect at the time of the bid let regardless of item descriptions.

N10560B - a10560 ENVIRONMENTAL COMMITMENTS AND MITIGATION TRACKING SYSTEM (ECMTS) REVIEW AND SIGN-OFF

Addendum:

Associated Item(s):

Header:
ENVIRONMENTAL COMMITMENTS AND MITIGATION TRACKING SYSTEM (ECMTS) REVIEW AND SIGN-OFF

Provision Body:

Refer to the Environmental Commitments and Mitigation Tracking System (ECMTS) Report for information related to the mitigation commitments and tracking documents for the project. Refer to the attached ECMTS construction tracking signature sheet (ECMTS Signature Sheet) for a list of the commitments to be tracked.

Note: The ECMTS is not an all-inclusive list of permit requirements. Read the permit and comply with all permit requirements.

Designate a responsible individual (Project Manager or Site Superintendent) to maintain the ECMTS Signature Sheet during construction. Identify the designated individual's name in a note at the bottom of the ECMTS Signature Sheet. Include additional names if responsible individuals change during the construction of the project.

Review each Mitigation Category and associated mitigation or commitment identified in the ECMTS Signature Sheet at the Pre-construction Conference. As each mitigation or commitment is completed, initial and date the appropriate block. By initialing and dating the block, the designated individual confirms the mitigation or commitment has been reviewed, understood, and has been incorporated in the construction of the project, as appropriate.

Ensure that the mitigation commitments are completed as early as possible depending on the sequencing and construction schedule. Review the ECMTS Signature Sheet at each status meeting. The Department Construction Project Manager will verify, date, and initial each mitigation commitment as it is completed.

Direct questions regarding the mitigation commitments to the assigned District Environmental Unit staff. Notify the assigned District Environmental Unit staff of any problems with implementing the commitments. Changes to mitigation or commitments will be reviewed and approved by the assigned District Environmental Unit staff in coordination with the relevant resource agencies and FHWA, as appropriate. Notify the District Construction ACE Services Engineer of any problems encountered during the implementation of the commitments and mitigation measures.

Maintain one copy of the ECMTS Signature Sheet at the Contractor's project field office and provide one copy to the Inspector-In-Charge after each update.

Submit one copy of the completed ECMTS Report to the Department IIC Construction Project Manager, one copy to the District ACE Construction Services Engineer, and one copy to the assigned District Environmental Unit staff upon completion of the project.

This work includes the review and sign off of the ECMTS Signature Sheet only and is considered incidental.

D10561A - a10561 ENVIRONMENTAL COMMITMENTS and MITIGATION TRACKING SYSTEM (ECMTS) REPORT

Addendum:

Associated Item(s):

Header:

ENVIRONMENTAL COMMITMENTS and MITIGATION TRACKING SYSTEM (ECMTS) REPORT

Provision Body:

I. DESCRIPTION - This work is the review and reevaluation of the environmental documents and the updating, documentation, and implementation of the environmental commitments identified in the project Environmental Commitments and Mitigation Tracking System (ECMTS) Report.

a) Compliance with Environmental Documents

Develop Final Design and complete construction activities in compliance with the mitigation and commitments detailed in the approved Environmental Documents and permits (attached to ECMS project development checklist). The Department has obtained environmental clearance for this project in the form of a ***Categorical Exclusion Evaluation (CEE).*** The complete environmental document can be obtained online through the CEE Expert System's Approved Document Archive at the following web address: http://www.dotdom2.state.pa.us/ceea/ceeamain.nsf by entering Package Number ***28752*** into the search tool and select the returned document link.

Reevaluate the Environmental Document if the design does not conform to the environmental impacts described in the approved Environmental Document, or if any anticipated impacts to natural or cultural resources are different from the anticipated impacts evaluated in the approved Environmental Document. Reevaluation must be approved before the start of construction activities. Coordinate as needed with the assigned District Environmental Unit staff to obtain approval of the reevaluations. No extension of the project completion date will be granted.

b) Mitigation Tracking

Refer to the Environmental Commitments and Mitigation Tracking System Report for information related to the mitigation commitments and tracking documents for the project. Refer to the attached ECMTs Matrix for a list of the commitments to be tracked.

Note: The ECMTS is not an all-inclusive list of permit requirements. Read the permit and comply all permit requirements.

Following the procedures in Appendix T of PennDOT Publications 10X, update the matrix with environmental commitments and mitigation activities identified after NEPA approval.

Create a signature sheet to be used during construction based on the template in Appendix T of PennDOT Publication 10X. Designate a responsible individual (Project Manager or Site Superintendent) to maintain the ECMTS Signature Sheet during construction. Identify the designated individual's name in a note at the bottom of the ECMTS Signature Sheet. Include additional names if responsible individuals change during the construction of the project.

Review each Mitigation Category and associated mitigation or commitment identified in the ECMTS Signature Sheet at the Pre-construction Conference. As each mitigation or commitment is completed, initial and date the appropriate block. By initialing and dating the block, the designated individual confirms the mitigation or commitment has been reviewed, understood, and has been incorporated in the construction of the project, as appropriate.

Ensure that the mitigation commitments are completed as early as possible depending on the sequencing and construction. Review the ECMTS Signature Sheet at each status meeting. The Department Construction Project Manager will verify, date, and initial each mitigation commitment as it is completed.

Direct questions regarding the mitigation and commitments to the assigned District Environmental Unit staff. Notify the assigned District Environmental Unit staff of any problems with implementing the commitments. Changes to mitigation or commitments will be reviewed and approved by the assigned District Environmental Unit staff in coordination with the relevant resource agencies and FHWA as appropriate. Notify the Construction ACE Services Engineer of any problems encountered during the implementation of the commitments and mitigation measures.

Maintain one copy of the ECMTS Signature Sheet at the Contractor's project field office and provide one copy to the Inspector-In-Charge after each update.

Submit one copy of the completed ECMTS Signature Sheet to the Department IIC Construction Project Manager, one copy to the District ACE Construction Services Engineer, and one copy to the assigned District Environmental Unit staff upon completion of the project.

II. MEASUREMENT AND PAYMENT – Incidental to the design activities listed in Section IV of the Special Provision titled SPECIAL BIDDING – DESIGN-BUILD.

N10650C - a10650 MINIMUM EFFECTIVE ASPHALT FOR 9.5 MM OR 12.5 MM SUPERPAVE MIXTURES

Addendum:

Associated Item(s):

Header:

MINIMUM EFFECTIVE ASPHALT FOR 9.5 MM OR 12.5 MM SUPERPAVE MIXTURES

Provision Body:

Submit a 9.5 mm or 12.5 mm Superpave mix design prepared as specified in Section 413.2, in accordance with Bulletin 27, and as follows:

- Submit a design with minimum effective asphalt (Pbe) based on the combined aggregate bulk specific gravity (Gsb) in accordance with the Minimum Pbe Table below.

- New designs need to meet the minimum Pbe requirements in the Table below along with existing volumetric requirements as listed in Bulletin 27 Chapter 2A.

Minimum Pbe		
Gsb	**9.5 mm Superpave Mixes**	**12.5 mm Superpave Mixes**
2.250 to 2.274	6.2	5.8
2.275 to 2.324	6.1	5.7
2.325 to 2.374	6.0	5.6
2.375 to 2.424	5.9	5.5
2.425 to 2.474	5.8	5.4
2.475 to 2.524	5.7	5.3
2.525 to 2.574	5.6	5.2
2.575 to 2.624	5.5	5.1
2.625 to 2.674	5.4	5.0
2.675 to 2.724	5.3	4.9
2.725 to 2.774	5.2	4.8
2.775 to 2.824	5.1	4.7
2.825 to 2.874	5.0	4.6
2.875 to 2.924	4.9	4.5
2.925 to 2.974	4.8	4.4
2.975 to 3.024	4.7	4.3

3.025 to 3.074	4.6	4.2

Changes to Previously Approved Mix Designs*:

- Changes to a previously approved 9.5 mm or 12.5 mm mix design that meet or exceed the requirements in the “Minimum Pbe” Table will not be allowed.
- Additional virgin asphalt binder will be allowed provided the minimum Pbe is met or exceeded and all other mix properties are met.
- Ndesign air voids may range from 3.5% to 4.0% for mixture design.
- The maximum Design voids filled with asphalt (VFA) is revised to 80.
- Follow the steps below to achieve the minimum Pbe:
    - Step 1
        - Verify the additional virgin asphalt binder content according to Bulletin 27, Appendix J, Section C. If the laboratory mixed, laboratory compacted specimens meet Bulletin 27, Condition B of Appendix J, Table J -2, then no other adjustments to proportions or gradation will be required.
    - Step 2
        - If the addition of virgin asphalt cannot meet Bulletin 27, Condition B of Appendix J, Table J-2, gradation changes are permissible as long as changes are within multiple sample tolerances as specified in Section 413.2(e) Table A.
    - Step 3
        - If Bulletin 27, Condition B of Appendix J, Table J-2 cannot be achieved with Step 1 or Step 2, a complete re-design of the JMF will be required.

(Previously Approved Mix Designs- JMF’s approved in previous year or new designs submitted with the only change being either PG grade or HMA to WMA, with no changes to target asphalt content or gradation)*

D29890C - a29890 SPECIAL BIDDING – DESIGN-BUILD

Addendum:

Associated Item(s):

Header:

SPECIAL BIDDING – DESIGN-BUILD

Provision Body:

This project will utilize the Low Bid Design-Build method of contracting. The contract for this project will be between the Department and the successful Bidder.

I. ACTIONS REQUIRED BY THE BIDDER AT THE BIDDING STAGE AND BEFORE AWARD

When signing and submitting the bid, the Bidder is required to certify the following for all professional service firms (firms) performing activities listed in Section IV – Design Activities:

- that, if applicable, the Bidder either (a) has obtained assurance that all firms being used have no adverse interests as defined in the State Adverse Interest Act and fully comply with this Special Provision or (b) has faxed a letter to the Contract Awards Officer at (717) 705-1504 disclosing any potential conflicts;
- that, if applicable, the Bidder (a) has obtained assurance that all firms being used have no organizational conflicts of interests and fully comply with this Special Provision or (b) has faxed a letter to the Contract Awards Officer at (717) 705-1504 disclosing any potential conflicts;
- that, if applicable, the Bidder (a) has obtained assurance that all firms being used have fully complied with Section III of this Special Provision or (b) will email or fax a completed "Request for Consideration of Professional Services Involvement Restrictions" form to the District Project Manager indicated in the Section V - Review Submission Contacts of this Special Provision; and
- that, if applicable, the Bidder has obtained assurance that all firms being used are familiar with the necessary AASHTO, PennDOT, and other applicable design criteria, standards, and construction specifications required to complete the related portion of their associated work.

State Adverse Interest Act – Where required, fully disclose any potential conflict with the State Adverse Interest Act as State Advisor or State Consultant. If there is no adverse interest, certify as such.

Organizational Conflict of Interest – Where required, fully disclose all relevant facts concerning any past, present, or currently planned interests that may present an Organizational Conflict of Interest. This disclosure must state how their interests or those of their chief executives, directors, key project personnel, or any proposed firm could be viewed as, an Organizational Conflict of Interest. If there is no Organizational Conflict of Interest, certify as such. Note: An Organizational Conflict of Interest is defined in *23 CFR 636* as a conflict “that because of other activities or relationships with other persons, a person is unable or potentially unable to render impartial assistance or advice to the owner, or the person’s objectivity in performing the contract work is or might be otherwise impaired, or a person has an unfair competitive advantage.”

Professional Services Involvement Restrictions – Where required, indicate that involvement in such firms can be avoided, neutralized, or mitigated by completing the following:

- present these involvements on the "Request for Consideration for Professional Services Involvement Restrictions" form, located in ECMS File Cabinet (in the References Tab); and
- email or fax this form immediately upon ECMS email notification of apparent low bidder status to the District Project Manager indicated in Section V – Review Submission Contacts of this Special Provision.

The District Project Manager will notify the apparent low bidder of the result.

II. ACTION TO BE TAKEN BY THE BIDDER AFTER AWARD

Design Activity Firm Identification and Qualifications

The awarded bidder is required to complete the form, “Design-Build Design Activities Firm Identification and Qualifications”. This form is located in ECMS File Cabinet (in the References Tab).

Email or fax the completed form to the District Project Manager indicated in the Section V - Review Submission Contacts of this Special Provision within 3 calendar days after the award of the contract.

Include on this form the name and design activity performed by each firm performing activities listed in Section IV Design Activities of this Special Provision. Include with this form resumes for the:

- Lead Design Engineer Project Manager;
- Quality Control (QC) Manager and Alternate QC Manager;
- Quality Assurance (QA) Manager (if applicable) and Alternate QA Manager; and
- Secondary Design Services Professionals (if applicable) Project Manager.

These resumes should show the experience and expertise required by the project special provisions for the applicable design activities listed in Section IV – Design Activities of this Special Provision. At a minimum, these resumes should show experience and expertise during the last 7 years, of two similar projects of comparable complexity on Pennsylvania's State Highway,

Pennsylvania Turnpike, or local system. Non-Turnpike projects must have been funded with Federal Aid Highway Funds. Also, include an affidavit stating that the Lead Design Engineer is familiar with AASHTO, the Department, and other applicable design criteria, standards, and construction specifications. Additional design qualifications may be listed in other Design-Build Special Provisions included in this Contract.

All engineering firms must have a current Annual Qualification Package on file with the Bureau of Project Delivery's Contract Management Section and be registered business partners in ECMS. In addition, engineering firms' business partner relationship in ECMS must include both Consultant and Construction Contractor relationships. The ECMS USER ID security must include Construction Contractor security groups such as "Contractor Principal." Firms must be listed as a Prequalification Exempt Service Provider in the subcontractor database with the Department's Prequalification Office. These requirements also apply to all subconsultants, including Disadvantaged Business Enterprises, Minority Business Enterprises, and Women-Owned Business Enterprises.

For projects that include Right-of-Way Acquisition services, the right-of-way firm must be pre-approved to provide Right-of-Way Acquisition Services through ECMS.

All firms must comply with the restrictions listed in 23 CFR 636.116 titled *What organizational conflict of interest requirements apply to design-build projects?*

If a firm included in the submission does not meet the necessary requirements indicated in this Special Provision and in the project special provisions for the applicable design activities listed in Section IV – Design Activities of this Special Provision, the Department reserves the right to disallow the firm for this contract. Firms identified on a "Request for Consideration for Professional Services Involvement Restrictions" form that has been submitted but not approved will be disallowed. A notification will be given to the Contractor within 8 calendar days from the time and date of submission indicating the Department approval or disallowance, and justification thereof, of each firm listed on the "Design-Build Design Activities Firm Identification and Qualifications" form. A firm cannot begin work on this contract until approval is received from the Department. Unless indicated otherwise by the Department in writing, the disapproval of any firm will not allow the extension of the contract completion date or price adjustments to any items in the contract.

III. PROFESSIONAL SERVICES INVOLVEMENT RESTRICTIONS

All firms performing activities listed in Section IV – Design Activities of this Special Provision must be in compliance with the following paragraphs and the Professional Services Involvement Restrictions – Design Activities of this Special Provision for Design-Build Contracts charts [Table A and Table B].

- Any Consultant that provided or is providing any design work and services to the Department for the preparation of this design-build bid package will not be eligible to provide any design work and services to the Contractor for the design-build contract.

- Any Consultant performing design work or services to the Contractor for this design-build contract, such as Lead Design Engineer, Quality Control Reviewer, Secondary Design Service Professionals, or Quality Assurance Reviewer (if applicable), is not eligible for any involvement under a Department Agreement on that contract.

DEFINITIONS:

PRIME CONSULTANT (Department agreement) – The contractual party providing design consultant work and services pursuant to an Agreement with the Department. The Consultant may be an individual, partnership, corporation, or joint venture.

SUB-CONSULTANT (Department agreement) - The party providing design work and services to the Prime Consultant (which is providing consultant work and services pursuant to an agreement with the Commonwealth) pursuant to an agreement with the Prime Consultant to which the Department is not a party.

LEAD DESIGN ENGINEER (LDE) (design-build contract) – The design consultant engineering firm or Contractor's personnel that are responsible for the design portion of the design-build contract.

QUALITY CONTROL REVIEWER (QC-R) (design-build contract) - The design consultant engineering firm or individuals that are responsible to manage the quality control of the design-build contract, including the Quality Control Manager and the Alternate Quality Control Manager. The design Quality Control Reviewer is allowed to be the same firm as the Lead Design Engineer.

QUALITY ASSURANCE REVIEWER (QA-R) (Department agreement or design-build contract, if applicable)– The design consultant engineering firm or individuals functioning as Department and FHWA (as appropriate) representatives who check the validity of the Contractor's Quality Plan to ensure all work is done in accordance with the contract documents. Quality Assurance Reviewer may be Department and/or FHWA personnel, consultants under a Department agreement, or a firm providing design services to the design-build Contractor (if included as a design activity in Section IV Design Activities of this Special Provision, as "Quality Assurance by Peer Review). The Quality Assurance Reviewer may not be the same firm as the Contractor, the Lead Design Engineer, or the Quality Control Reviewer.

SECONDARY DESIGN SERVICE PROFESSIONALS (SDSP) (design-build contract)– Other design consultant engineering firms or professional service firms providing professional services to the design-build Contractor beyond roles of Lead Design Engineer or design Quality Control Reviewer.

PROFESSIONAL SERVICES INVOLVEMENT RESTRICTIONS - DESIGN ACTIVITIES FOR DESIGN-BUILD CONTRACTS:

TABLE A: INVOLVEMENT AS PRIME OR SUB CONSULTANT TO THE DEPARTMENT

PROJECT INVOLVEMENT **(Prime Consultant/Sub-consultant in Department Agreement)**	**DESIGN ACTIVITY RESTRICTIONS**
Feasibility Studies, Traffic Studies, Mapping Services	No restrictions if no recommendations to the Department made by the Consultant
Preliminary Engineering, Preliminary Engineering Constructability Reviews, and Environmental Studies Anticipating a CEE	Not eligible to perform any design work or services to the Contractor for the design-build contract. Exception (1) – See "Sub-consultant Exception" below.
Preliminary Engineering, Preliminary Engineering Constructability Reviews, and Environmental Studies Anticipating an EA/ EIS	Not eligible to perform any design work or services to the Contractor for the design-build contract. Exception (1) – See "Sub-consultant Exception" below.
Conceptual Design / Bid Package Preparation for Design-Build Project	Not eligible to perform any design work or services to the Contractor for the design-build contract. Exception (1) – See "Sub-consultant Exception" below.
Final Design	Not eligible to perform any design work or services to the Contractor for the design-build contract.
Preliminary Engineering-Design Management, Review Note: This includes consultants performing reviews for a District or Central Office Agreement, including an Open End Agreement.	Not eligible to perform any design work or services to the Contractor for the design-build contract. Exception (1) – See "Sub-consultant Exception" below.
Final Design Management, Review Note: This includes consultants performing reviews for a District or Central Office Agreement, including an open-end agreement.	Not eligible to perform any design work or services to the Contractor for the design-build contract.

Department Review (Any design review completed as a representative of the Department, including Quality Assurance Reviews)	Not eligible to perform any design work or services to the Contractor for the design-build contract.
Construction Management Support (Any construction activity completed as a representative of the Department other than construction inspection, or services during construction)	Not eligible to perform any design work or services to the Contractor for the design-build contract
Services during Construction (Any design support services/reviews conducted during construction)	Not eligible to perform any design work or services to the Contractor for the design-build contract.
Construction Inspection	Not eligible to perform any design work or services to the Contractor for the design-build contract.

(1) Sub-consultant Exception – A Sub-consultant performing certain activities under a Department agreement containing multiple "projects," which are let under separate construction contracts, can perform design activities as part of the design-build contract provided that the design activities for the design-build contract is for a "project" in which the sub-consultant did not participate in ANY work for the Department.

See Table A.1: Department Agreement Containing Multiple Projects – Sub-consultant Eligibility.

TABLE A.1: DEPARTMENT AGREEMENT CONTAINING MULTIPLE PROJECTS – SUB-CONSULTANT ELIGIBILITY

Sub-consultant Performed Work Only on Project A (under Department Agreement)	**Design Activities for Design-Build Contract (under Design-Build Contract)**			
	Project A		**Project B**	
	LDE, QC-R, or SDSP	**QA-R[1]**	**LDE, QC-R, or SDSP**	**QA-R[1]**
Preliminary Engineering Activities (Does not include Bid Package Prep)	N	N	Y*	Y*
Conceptual Design/Bid Package Preparation	N	N	Y*	Y*
Department Review (includes Quality Assurance Review)	N	N	N	N
Construction Management or Construction Inspection	N	N	N	N

Note: Project A and Project B represent multiple projects under one engineering agreement that are bid under separate construction contracts.

N - Sub-consultant is not eligible to perform service.

Y*- A sub-consultant firm, that worked on the preliminary design or the Conceptual Design/Bid Package Prep for Project A, can function as EITHER a Quality Assurance Reviewer (if applicable) OR function as a Lead Design Engineer, Quality Control Reviewer, or Secondary Design Service Provider on Project B.

[1] If applicable

TABLE B: INVOLVEMENT INCLUDES PERFORMING DESIGN ACTIVITIES FOR DESIGN-BUILD CONTRACT

PROJECT INVOLVEMENT (Performance of Design Activities in Design-Build Contract)	**RESTRICTIONS**
LDE	Not eligible for any future involvement under a Department Agreement for project(s) included in design-build contract, including Department Review, Quality Assurance Review, Construction Management, and Construction Inspection services. Not eligible to perform Quality Assurance Reviews (if applicable).
QC-R	Not eligible for any future involvement under a Department Agreement for project(s) included in design-build contract, including Department Review, Quality Assurance Review, Construction Management, and Construction Inspection services. Not eligible to perform Quality Assurance Reviews (if applicable)
SDSP	Not eligible for any future involvement under a Department Agreement for project(s) included in design-build contract, including Department Review, Quality Assurance Review, Construction Management, and Construction Inspection services. Not eligible to perform Quality Assurance Reviews (if applicable).
QA-R (if applicable)	Not eligible to function as Lead Design Engineer, Quality Control Reviewer, or Secondary Design Services Professionals. Not eligible for any future involvement under a Department Agreement for project(s) included in design-build contract, including Department Review, Construction Management, and Construction Inspection services.

IV. DESIGN ACTIVITIES

Design activities include:

- Maintenance and Protection of Traffic Design

V. REVIEW SUBMISSION CONTACTS

Include all design activities, submission dates, and review periods in the construction schedule. Include the submission schedule in the Quality Plan.

Make all required submissions for each design activity to the Department's Project Manager.

- Department Project Manager

Nathan Milazzo

Phone number: **814-696-7159**

Fax number: **814-696-7149**

Email address: **namilazzo@pa.gov**

Address for final submissions: District Office – see location information below

Maintenance and Protection of Traffic Design:

- Traffic Control Plan (Preliminary and Final Plans)
- Transportation Management Plan and Incident Management Plan

Nathan Milazzo

Phone number: **814-696-7159**

Fax number: **814-696-7149**

Email address: **namilazzo@pa.gov**

Address for final submissions: District Office – see location information below

VI. LOCATION INFORMATION:

Pennsylvania Department of Transportation

District 9-0 Office

Street Address: 1620 North Juniata Street, Hollidaysburg, PA 16648

The PennDOT Project Collaboration Center (PPCC) will be used for the purposes of distributing electronic plan submissions to and from reviewing parties as identified in Section V - Review Submission Contacts of this Special Provision. Details will be provided prior to the Preconstruction Conference.

VII. SUBMISSION REQUIREMENTS/REVIEW TIMES:

The following table provides the required number of plans and/or documents and the schedule of review times for complete submissions. Partial submissions, where specified, will be reviewed in the time specified below **for each submission**. Partial submissions will require the submission of the number of plan sets and calculations specified below for the applicable design activity. Be responsible for reproduction costs for submissions and final drawings, including providing the Department with all final drawings for use during construction, in addition to any copies specified below.

Item	Plan Sets	Sets of Calculations	Initial Submission Review Time (working days)	Subsequent Submission Review Time (working days)
Maintenance and Protection of Traffic Design				
Transportation Management Plan	4	4	10	5

Incident Management Plan	4	4	10	5
Preliminary Plan	4	4	10	5
Final Plan	4	4	10	5

** - Review times will be in accordance with the regulations of the reviewing agency.

Review times begin and end when a submission is logged in and out, respectively, by all designated reviewers. The login time will be taken as the latest date in which the submission is received by the reviewers. Submittals received after 11:00 a.m. will be logged in as the next working day following receipt of the submission. For electronic submissions, the login time will be taken when the appropriate reviewer and District Project Manager receive an email stating a submission is ready for review. Logout time occurs when the reviewer sends an email to the Contractor with an approval and/or comments. If a submission is incomplete or otherwise requires additional information or data to complete the review properly, the review time will begin as specified for the submission when all required information is received.

Additional contract time or price adjustment to any contract items will not be considered due to failure to obtain approvals within the specified review times resulting from incomplete or non-conforming submissions. Working days are weekdays, Monday through Friday, excluding official Department holidays.

Include all review periods identified above as activities in the project schedule.

VIII. GENERAL DESIGN REQUIREMENTS

Have the design completed by a Professional Engineer licensed in the State. Have all surveys completed by a Professional Land Surveyor licensed in the State.

Provide the Design Engineer's P.E. seal, the date signed, and business name and address on the first sheet of all computations, including computations for partial submissions. Provide the appropriate seal and signature on plan sheets in accordance with the Department's Design Manuals. Also, provide the Design Engineer's P.E. seal, signature, and date signed on the first sheet of all computations, including computations for partial plans submissions.

Provide all Professional Engineer’s seals in accordance with Pa. Code § 37.59.

Designs copied directly from Department Standard Drawings need not be documented through independent computations. List such designs on the submission by referencing the drawing number of the applicable standard, and the sheet number, table, or graph.

Experimental or demonstration-type design concepts, products, structures, or elements not pre-approved by the Department for general usage at the time of bid, will not be allowed.

If Right-of-Way Design and Acquisition Services has not been identified as Design Activity in Section IV of this Special Provision, no additional Right-of-Way may be acquired and no changes to the recorded Right-of-Way Plan will be permitted.

Value engineering construction proposals are allowed, provided that the proposal does not require approval of a Design Exception.

Designs that take advantage of any errors and/or omissions in the following requirements will not be accepted. In the event any such error, omission, or discrepancy is discovered, immediately notify the Department. Failure to notify the Department will constitute a waiver of all claims for misunderstanding, ambiguities, or other situations resulting from the error, omission, or discrepancy.

Final Plans must include a note on all tabulation of quantities sheets included therein that states “Item numbers and descriptions listed in Tabulations are solely for the purposes of identifying the specified units of work and locations, and are not to be construed as contract or pay items.”

Design Specifications

Perform the design activities identified in Section IV, Design Activities, in accordance with the latest published edition of all Department Standards, Specifications, Regulations, Strike-off Letters, and other industry standards, at the time of advertisement, unless directed otherwise, or as identified in the bid package. These include, but are not limited to the following:

- Special Provisions;
- Publication 408, *Specifications*
- Publication 72M, *Standards for Roadway Construction*
- Publication 218M, *Standard Drawings for Bridge Design*
- Publication 219M, *Standard Drawings for Bridge Construction*
- Publication 10 Design Manual Part 1 – *Transportation Program Development and Project Delivery Process*
- Publication 10A Design Manual Part 1A – *Pre-TIP and TIP Program Development Procedures*
- Publication 10B Design Manual Part 1B – *Post-TIP NEPA Procedures*
- Publication 10C Design Manual Part 1C – *Transportation Engineering Procedures*
- Publication 10X Design Manual Part 1X – *Appendices to Design Manuals 1, 1A, 1B, and 1C*
- Publication 13M Design Manual Part 2 – *Highway Design*
- Publication 14M Design Manual Part 3 – *Plans Presentation*
- Publication 15M Design Manual Part 4 – *Structures*
- Publication 16M Design Manual Part 5 – *Utility Relocation*
- Publication 584, *Drainage Manual*
- Publication 46, *Traffic Engineering Manual*
- Publication 149, *Traffic Signal Design Handbook*
- Publication 35, *Approved Construction Materials*
- Publication 203, *Work Zone Traffic Control*
- Publication 213, *Temporary Traffic Control Guidelines*
- Publication 222, *Subsurface Boring, Sampling, and Testing Contract*
- Publication 293, *Geotechnical Engineering Manual*
- Publication 378, *Right-of-Way Manual*
- Pa Code Title 67, Chapter 204, *Guidelines to Implement Act 229 of 2002, Additional Traffic Control Devices in Highway Work Zones, Statement of Policy*
- Pa Code Title 67, Chapter 212, *Official Traffic Control Devices* (Publication 212)
- Publication 236M, *Handbook of Approved Signs*
- Publication 242, *Pavement Policy Manual*
- Publication 281, *Waste Site Evaluation Procedures for Highway Project Development Process*;
- Publication 371, *Grade Crossing Manual*
- Publication 122M, *Surveying and Mapping Manual*
- Publication 111, *Traffic Control – Pavement Markings and Signing Standards*
- Publication 148, *Traffic Standards – Signals*
- Publication 611, *Waste Management Guidance Manual*
- *Manual on Uniform Traffic Control Devices* (FHWA)
- *A Policy on Geometric Design of Highway and Streets*, AASHTO "Green Book"
- *A Policy on Design Standards – Interstate System* (AASHTO)
- AASHTO *Guide Specifications for Horizontally Curved Highway Bridges*
- AASHTO *LRFD Bridge Design Specifications* or, when applicable, AASHTO *Standard Specifications for Highway Bridges*

In the event that a clear order of predominance cannot be established, or a difference in interpretation of the design cannot be resolved, the Assistant District Executive-Design will be the arbiter and his/her decision will be final.

For bridge/structures related design activities, refer to the "Bridge/Structures Related Effective Policy Letters" for additional design policy Strike-Off Letters that are applicable to the structure design.

In the event that certain design parameters, stresses, or specifications are in conflict regarding bridge/structures related design activities, the following order of predominance governs:

1. Design requirements listed herein and addenda (addendum) to the proposal.
2. Design related Strike-Off Letters in effect on the date of project advertisement.
3. Publication 15M Design Manual Part 4, *Structures*
4. Publications 218M and 219M *Standard Drawings for Bridge Design* and *Bridge Construction*
5. AASHTO *LRFD Bridge Design Specifications* or, when applicable, AASHTO *Standard Specifications for Highway Bridges*

In the foregoing instances, in the event that a clear order of precedence cannot be established, or a difference in the interpretation of the design criteria, standards, specifications, or methodology cannot be resolved, the Chief Bridge Engineer will be the arbiter and whose decision will be final.

IX. SCHEDULE OF VALUES

Where indicated, partial payment for lump sum design-build items will be made on Current Estimate Payments in accordance with Section 110.05 based on the amount of work completed during the estimate period based on a payout schedule (Schedule of Values). The Department will base amount of the partial payments on the total value of the work performed to the date of the estimate cut-off, less payments previously made, in accordance with the approved Schedule of Values.

Prepare a Schedule of Values for each lump sum Item associated with the design or construction of the Design Activities identified in Section IV of this Special Provision, where the Special Provision for that "Design" or "Construct" Item indicates lump sum measurement and payment by Schedule of Values, using the attached Schedule of Values template as a guide. Hereinafter, Design Items are defined as the Contract Item associated with the Design Activities identified in Section IV, and Construct Items are defined as the Contract Item associated with the construction of the Design Activities identified in Section IV. Distribution of payments among Schedule of Values Components must bear a reasonable resemblance to the actual value of work.

(a)For Design items, if a Component is not applicable, indicate 0%; otherwise do not indicate values less than 5% in any Component. Include those Schedule of Values Components identified in the associated Design Item Special Provisions. Payment for Design Item Schedule of Values Components will be made in the amount of the approved percentage upon completion of the identified task. When Schedule of Values Components are identified in the Special Provisions with “Approval” in the Schedule of Values Component title, 75% of the approved percentage may be paid on the next estimate following login of that submission, and the remaining 25% of the approved percentage will be paid following approval of that submission. Otherwise, no partial payment will be made for Design Item Components.

(b)For Construct Item, include Schedule of Values Components relevant to the scope of work of the particular item, using the attached Schedule of Values template as a general guide. No partial payment will be made for Construct Item Schedule of Values Components. Accordingly, develop the Schedule of Values to include Schedule of Values Components in sufficient numbers and detail to be payable upon semi-monthly estimates throughout the duration of the Contract.

Submit the Schedules of Values to the Department for review and approval. No estimate will be processed until all Schedules of Values are approved.

X. CONSTRUCTION CONTACT

The Department’s contact for Current Estimate Payments as defined in Section 110.05 will be:

Tom Helsel

Phone number: 814-696-7258

Fax number: 814-696-7146

Email address: thelsel@pa.gov

D29899A - a29899 QUALITY PLAN WITH QUALITY ASSURANCE REVIEW BY DEPARTMENT - LOW BID DESIGN

Addendum:

Associated Item(s):

Header:
Quality Plan with Quality Assurance Review by Department - Low Bid Design

Provision Body:

I. DESCRIPTION - This item consists of developing, furnishing, executing, and maintaining a Quality Plan for the Design Activities listed in Section IV of the Special Provision titled SPECIAL BIDDING – DESIGN-BUILD and establishing controls to ensure compliance with all contract documents for those design activities. The Department and FHWA (as appropriate) will provide a Quality Assurance Review.

II. DEFINITIONS.

a. Quality Plan – The plan prepared for managing quality during final plan development for Design Activities as identified in the Special Provision titled SPECIAL BIDDING – DESIGN-BUILD that addresses key staff, responsibilities, milestones, monitoring budgets and schedules, communication efforts, Quality Control/Quality Assurance efforts and tracking procedures as a minimum. It should include a detailed description of the Quality Control staff, design procedures, and design review procedures

b. Quality Control (QC) – All processes and activities performed on the Contract to assess and control the accuracy and completeness of the design, to ensure Contract compliance.

c. Quality Control Reviewer – The design consultant engineering firm or individuals that are responsible to manage the quality control of the design-build contract, including the Quality Control Manager and the Alternate Quality Control Manager.

d. Quality Control Staff – The design consultant team or individuals that are responsible to manage the quality control of the design-build Contract. The QC Staff includes the QC Manager, Alternate QC Manager, and sufficient number of qualified personnel to ensure Contract compliance. The QC Staff may include personnel from the same firm as the Lead Design Engineer, as defined in the Special Provision titled SPECIAL BIDDING – DESIGN-BUILD, but may not be involved with other design activities on the contract.

e. Quality Assurance (QA) - The planned and systematic actions that are necessary to provide adequate confidence that a product or facility complies with Federal and State requirements. QA is the performance of a high level review of each product to confirm quality, economy, and compliance with Contract requirements.

f. Quality Assurance (QA) Team - The Department and FHWA (as appropriate) representatives who check the validity of the Quality Plan to confirm that the work is done in accordance with the Contract documents.

g. Quality Assurance Review - A review of the plans, specifications, and calculations by the Department and FHWA (as appropriate) to confirm that the project's approved design criteria are being followed.

III. QUALITY PLAN

(a) Quality Plan Requirements.

1. Quality Control Requirements. Identify and discuss the procedures that will be used to review, modify, and approve plan documents and associated permits. Include methods and procedures to control, document, and accept the quality of the design activities listed in Section IV of the Special Provision titled SPECIAL BIDDING – DESIGN-BUILD. Include the following quality control items as a minimum:

a. Control.

(1) Procedures to control the quality of the final design.

(2) Methodology used to determine design criteria to be used to develop design.

(3) Proposed design criteria for design.

(4) Guidelines for submission review including approach for addressing partial submissions.

(5) A general outline of the Lead Design Engineer's document control.

(6) Copies of the Lead Design Engineer's quality control forms and/or checklists.

(7) Incorporate design submission deadlines and Department review cycle-times into the CPM Schedule.

b. Records.

(1) Method of recording stages of design development.

(2) System of maintaining a design submission/review/acceptance status log.

(3) Method for updating and tracking submission status for all aspects of the design including partial submissions and permits.

(4) Systems by which the Lead Design Engineer internally checks calculations and the Contract documents.

(5) Records of submission reviews, approvals, and permits granted.

(6) Records of design revisions during construction.

c. Acceptance.

(1) Procedures to obtain acceptance and construction release by the Department through Quality Assurance review.

(2) Method of documenting and recording acceptance and construction release by the Department.

2. Quality Control Staffing. Maintain the QC Staff at approved Quality Plan levels at all times until project completion. The Lead Design Engineer Project Manager is responsible to review all design submissions, signing and sealing as appropriate, and then submit the design to the Department as defined in the Special Provision titled SPECIAL BIDDING – DESIGN-BUILD.

Provide an organization chart showing lines of authority and contact information of the key staff of the Contractor, Lead Design Engineer, and the QC Staff.

Provide the following information in the Quality Plan:

a. Lead Design Engineer. The Lead Design Engineer (LDE) consists of a Lead Design Engineer Project Manager and sufficient design personnel to ensure contract compliance. Lead Design Engineer personnel will report directly to the Lead Design Engineer Project Manager. The Lead Design Engineer Project Manager will report directly to the contractor. The Quality Plan must include, but not be limited to, the following:

(1) Provide an organization chart showing lines of authority and contact information of the Lead Design Engineer personnel.

(2) Include resumes, qualifications, duties, responsibilities, and certifications, of all design personnel. Provide a letter from a principal of the Lead Design Engineer firm to the Lead Design Engineer Project Manager that clearly describes their responsibilities and provide delegation of authority to stop work on any elements that do not comply with the contract documents.

(3) Identify the Lead Design Engineer Project Manager. The Lead Design Engineer Project Manager must meet the minimum requirement of being a Professional Engineer (PE) registered in the State with a minimum of 7 years of experience managing and supervising the design of roadway and/or structure projects.

(4) Provide a letter from an authorized official of the Contractor to the Lead Design Engineer Project Manager that clearly describes their responsibilities and provides delegation of authority to stop work on any elements that do not comply with the Contract.

b. Quality Control Staff. The QC Staff consists of a QC Manager, Alternate QC Manager, and sufficient number of qualified personnel to ensure Contract compliance. QC Staff personnel will report directly to the QC Manager. The QC Manager will report directly to the Contractor. The Quality Plan must include, but not be limited to, the following:

(1) Provide an organization chart showing lines of authority and contact information of the Quality Control Staff personnel.

(2) Include resumes, qualifications, duties, responsibilities, authorities, and certifications of all QC Staff personnel.

(3) Identify the QC Manager and Alternate QC Manager. The Alternate QC Manager is responsible to manage the QC effort during periods when the QC Manager is absent. In no instance will the QC Manager be absent from project responsibilities and the alternate manager serve for more than a continuous 2-week period without written permission from the Department.

(4) The QC Manager and Alternate QC Manager must meet the minimum requirement of being a Professional Engineer (PE) registered in the State with a minimum of 7 years of experience managing and supervising the design of roadway and/or structure projects.

(5) Provide a letter from an authorized official of the Contractor to the QC Manager that clearly describes the responsibilities and delegates the authority to stop work on any elements that do not comply with the Contract. The QC Manager will issue a letter of direction to all other Quality Control representatives outlining duties, authorities, and responsibilities. Include copies of these letters in the Quality Plan.

(b) Quality Plan Submittal. Clearly describe the approach to quality management and development of the Quality Plan. The discussion of the Quality Plan will address all activities listed in the Special Provision titled SPECIAL BIDDING – DESIGN-BUILD. Describe in detail the plans, procedures, references, organization, and documents required to ensure that all work complies with Contract documents. Include control measures, documentation procedures, records, and forms. Where Partial Submissions are allowed, address all specified partial submission requirements, list all partial submission components, and describe the schedule of partial submissions.

Submit the Quality Plan to the Department by the 5th working day after receiving approval of the QC Reviewer. The Department will provide comments on the Quality Plan at the Quality Coordination Meeting.

(c) Quality Coordination Meeting. Hold a Quality Coordination Meeting with the Department either as part of the pre-construction meeting, or as a separate meeting, and discuss the Quality Plan. Attendance by the Contractor, QC Manager, Alternate QC Manager, Lead Design Engineer, and the QA Team are mandatory at this meeting. The Department reserves the right to designate attendance by additional personnel. The meeting must be held within 10 working days following the date of the Notice to Proceed. During the meeting, a mutual agreement of the details to be included in the final Quality Plan will be developed including the forms for recording the operations, control activities, administration of the Quality Plan, and the interrelationship of the Quality Plan. Minutes of the coordination meeting must be prepared by the Lead Design Engineer, signed by the Contractor and the Department, and recorded. The Quality Coordination Meeting minutes must be incorporated as part of the final Quality Plan.

(d) Quality Plan Approval. Within 10 working days after the Quality Coordination Meeting, submit the final Quality Plan for approval based on comments received during the Quality Coordination Meeting. Include an updated CPM in the submission.

No payment will be made for design activities listed in Section IV of the Special Provision titled SPECIAL BIDDING – DESIGN-BUILD without an approved Quality Plan. Upon acceptance, the entire Quality Plan will become part of the Contract documents. Once work begins under the approved Quality Plan, continuously evaluate the work in accordance with the Quality Plan. Do not implement any changes without prior acceptance by the Department.

(e) Design Activity Submissions Monthly Report. In addition to the records required by Section III(a)1.b of this Special Provision, maintain the status of all submissions associated with the design activities listed in Section IV of the Special Provision titled SPECIAL BIDDING – DESIGN-BUILD on the form titled "Design Activity Submissions Monthly Report." This form is located in ECMS File Cabinet (in the References Tab). Submit this form within 30 calendar days following approval of the Quality Plan, and submit an updated version every 30 calendar days thereafter until the Final Drawings have been released for construction.

(f) Quality Assurance Review. The Department and FHWA (as appropriate) will perform a QA review of the plans, specifications, and calculations to confirm that the Department's approved design criteria are being followed.

Upon successful completion of the QA review, the plans will be issued to the Contractor by letter by the Department identifying the specific plans covered by the review. Plans issued will be stamped with the following statement:

"Quality Assurance Review was conducted. Released for Construction."

Upon successful completion of QA review of partial submissions, where permitted in the Special Provisions, plans will be issued to the Contractor by letter by the Department identifying the limitations of the review, and the limitations of the work released for construction. Plans issued will be stamped with the following statement:

"Quality Assurance Review was conducted. Released for Construction."

(g) Infractions. Any infractions of the Contract requirements, which are not monitored sufficiently by the Lead Design Engineer and the QC Reviewer, will result in any and all payments related to design activities listed in the Special Provision titled SPECIAL BIDDING – DESIGN-BUILD being withheld until infractions are corrected.

Such action may result in the District Executive giving a written order for the dismissal and replacement of the Lead Design Engineer and/or the QC Reviewer. An extension of Contract time or request for additional costs will not be considered when a delay or suspension occurs due to such infractions.

Be advised that any deliberate omissions or deliberate cover-ups will be grounds for default of the Contract.

IV. MEASUREMENT AND PAYMENT

Incidental to the design activities listed in Section IV of the Special Provision titled SPECIAL BIDDING – DESIGN-BUILD.

S6092B - b06092-SECTION 609.2(f) MISCELLANEOUS MATERIALS

Addendum:

Associated Item(s):

Header:
SECTION 609.2(f) MISCELLANEOUS MATERIALS

Provision Body:

Section 609.2(f) Miscellaneous Materials. Add the following new set of bullets:

- The Multifunctional Device(s) needed for this project will be provided by the Department for Department use and not as part of the Equipment Package contract item.
- A total of *(See "a" in Project Specific Details)* Low Capacity Multifunctional Devices and a total of *(See "b" in Project Specific Details)* High Capacity Multifunctional Devices will be provided for the project.
- Provide manufacturer recommended high-yield inkjet cartridges for each multifunctional device indicated above, as required. The exact make and model of the multifunctional device will not be known until the start of work. For cost estimating purposes, inkjet cartridges furnished must be usable with the multifunctional devices specified in Section 609.2(c), as applicable.

Project Specific Details:
a._____0_____

b._____1_____

I6091H - c06091 ITEM 0609-0009 EQUIPMENT PACKAGE

Addendum:

Associated Item(s): 0609-0009

Header:
ITEM 0609-0009 EQUIPMENT PACKAGE

Provision Body:

Appendix

Table A

EQUIPMENT PACKAGE	
Equipment	**Quantity**
Communications Equipment	
High Capacity Multifunctional Device (MFD) (1)	
Low Capacity Multifunctional Device (MFD) (1)	
Cellular Phone(s)	
Specialized Equipment	
Surveyor's Level & Measuring Rod	
Electronic Digitizer	
Digital Display Level	
Infrared Thermometer	
Laser Range Finder	
Paper Shredder	1
Digital Camera	
Internet Service	
Internet Service Provider	Yes
Wireless Internet Broadband Router (2)	Yes
Miscellaneous Items	
Computer Media	Yes
High yield MFD Ink/Toners Cartridges	Yes
Laboratory Equipment	
Concrete Cylinder Testing Machine	No

1. Unless otherwise approved, a MFD must be furnished in lieu of a separate copier, laser printer, color printer, scanner, and fax.

2. Provide compatible, powered internet hardware with firewall protection capable of wireless WPA2 security internet service and eight hardwired network ports, and pre-shared key. All cabling needed to interconnect network hardware and all microcomputer systems are required.

Microcomputer Systems. A total of ____1___ microcomputer systems are estimated to be used on the project.

This information is being provided to assist Bidders in meeting the requirements of Section 609.2(c), Communications Equipment, Section 609.2(e), Internet Service, and Section 609.2(f), Miscellaneous Materials.

Microcomputer systems may be furnished by the Department. If microcomputer systems are to be furnished by the Contractor, as part of the construction Contract, the bid will include applicable, 0688-XXXX bid items. When indicated, furnish microcomputer systems meeting the requirements of Section 688.

I679A - c0679 ITEM 4679-0400 SLAB STABILIZATION, HIGH DENSITY POLYURETHANE

Addendum:

Associated Item(s): 4679-0400

Header:

ITEM 4679-0400 SLAB STABILIZATION, HIGH DENSITY POLYURETHANE

Provision Body:

In accordance with Section 679 and as follows:

679.2 MATERIAL - Revise as follows:

(a) High Density Polyurethane Material. Prior to the start of work, provide a supplier certification with each shipment, as specified in Section 106.03(b)3, to the District Materials Engineer for review. Certify that the material conforms to the following requirements for property test results:

PROPERTY	TEST	RESULTS
Density, lbs/cu. Ft (min.)	ASTM D-1622	4.0
Compressive Strength, psi (min.)	ASTM D-1621	60
Tensile Strength, psi. (min.)	ASTM D-1623	70
Shear Strength, psi (min.)	ASTM C-273	40
Closed Cell Content % (min.)	ASTM D-2858	85

(b) Rapid Set Concrete Patching Materials. Supplied by a manufacturer listed in Bulletin 15. Use within the shelf life and temperature limitations set by the manufacturer.

679.3 CONSTRUCTION - Revise as follows:

679.3 (a) General. Add the following:

Assign a crew supervisor that has at least 5 years' experience in polyurethane slab stabilization and slab jacking work on projects of similar size and character.

Submit written documentation to the Representative at least 10 working days before start of work for the following:

1. Proof of experience. Provide proof of experience for the crew supervisor and injection nozzle-men.

Submit three references for crew supervisor and injection nozzle-men from persons who were responsible for supervision of these projects.

2. Field QC plan. Provide a field QC plan that contains the following:

- Provide details of proposed hole spacing, depth, diameter, drilling methods, and hole injection sequence for the stabilization operations.
- Provided a list of the proposed equipment, including supply pumps, valves, mixing equipment, injection guns and other items required to complete the work.
- Provide existing roadway profiles of the areas indicated on the contract documents, showing existing depressions and proposed grade line to be obtained.
- Provide details of proposed means of establishing and controlling line and grade of stabilized slabs.
- Provide details of methods for control and disposal of waste materials.
- Provide details of the curing period and open to traffic times.

Do not start work until the Representative has reviewed and approved all submittals.

679.3 (b) Deflection Testing. Delete Section

679.3 (c) Equipment. Revise as follows:

1. Grout Plant. Delete Section

2. Water Tanker. Delete Section

Add the following:

679.3(c)1. List of Equipment. Submit a list of the equipment to be utilized in the slab stabilization operations to the Representative for approval. Do not begin this work until it is satisfactorily shown that qualified personnel to operate such equipment are available at the job.

679.3(c)2. Pumping Unit. As a minimum, provide a truck mounted unit capable of injecting the polyurethane material at a controlled rate, underneath the pavement and capable of controlling the rate of rise of the pavement. Provide the pumping unit with a calibrated meter to measure the amount of high density polyurethane materials injected at each location and capable of instantaneous control of the material flow to avoid lifting of the pavement slabs.

679.3(d) Procedure. Revise as follows:

1. Drilling Holes. Drill injection holes in the pattern shown on the Standard Drawings, or as indicated on the field QC plan, as approved by the Representative. Drill holes 3/8- 3/4 inches in diameter, vertical and round, and to a depth indicated on the approved field QC plan.

2. Mixing. Delete Section

3. Void Filling. Inject the high density polyurethane material under the slab. Control the amount of rise by regulating the rate of injection of the material. Use a positive means of monitoring lift as specified in Section 679.3(c) 4. When the nozzle is removed from the hole, remove any excess material from the area. For slab stabilization, stop pumping when any vertical movement in Section 679.3(c) 4 occurs. If no vertical movement has occurred, the Representative may direct the Contractor to cease pumping.

679.3(e) Retesting. Revise as follows:

(e) Retesting. The Representative may direct additional injection at any slab that continues to show movement in excess of that specified or direct the removal and replacement, with a full depth concrete patch as specified in Section 516 and paid for separately.

679.3(f) Opening to Traffic. Revise as follows:

(f) Opening to Traffic. As listed on the contractor’s approved field QC plan and in accordance with Manufactures recommendations.

Add the following:

679.3(g) Roadway Profile Report. Prior to acceptance of work, provide to the Representative surveyed profile drawings for the areas that were stabilized. Include the existing profile grade, proposed profile grade and profile grade accomplished by the operation. The Representative may require additional injection based on the results indicated by the profile grade report.

679.4 MEASUREMENT AND PAYMENT – Revise to read:

(a) High Density Polyurethane. Pounds of material measured by a calibrated flow meter. Includes roadway profile report. The Department will not pay for any wasted material.

(b) Holes Drilled. Each

The price includes patching of the hole

I19992A - c1999 ITEM 1999-9999 TRAINEES

Addendum:

Associated Item(s): 1999-9999

Header:
ITEM 1999-9999 TRAINEES

Provision Body:

This Special Provision is an implementation of 23 U.S.C. 140 (a).

I. DESCRIPTION - As part of the project equal employment opportunity affirmative action program, provide on the job training aimed at developing candidates toward full journeymen in the type of trade or job classification involved.

The number of trainees to be trained under this contract is (***as found in the Project Specific Details, Detail 1.***)

II. CONSTRUCTION -

(a) In the event a subcontract is given for a portion of the contract work, determine how many, if any, of the trainees are to be trained by the subcontractor. However, retain the primary responsibility for meeting the training requirements imposed by this special provision. Insure that this Special Provision is physically included and is made applicable to any such subcontract. Where feasible, provide 25% of apprentices or trainees in each occupation, in their first year of apprenticeship or training.

(b) Distribute the number of trainees among the work classifications on the basis of the project needs and the availability of journeymen in the various classifications within a reasonable area of recruitment. Within 10 calendar days following the Notice to Proceed, submit to the Department for approval the number of trainees to be trained in each selected classification and training program to be used, specifying the starting time for training in each of the classifications. The Department will give credit for each trainee employed on the contract who is currently enrolled or becomes enrolled in an approved program and payment will be made for such trainees as provided herein.

(c) Training and upgrading of minorities and women toward journeyman status is a primary objective of this Special Provision. Accordingly, make every effort to enroll minority trainees and women (e.g., by conducting systematic and direct recruitment through public and private sources likely to yield minority and women trainees) to the extent that such persons are available within a reasonable area of recruitment. Accept responsibility for demonstrating that steps are taken in pursuance thereof, prior to a determination as to whether compliance is made with this Special Provision. This training commitment is not intended, and do not use it, to discriminate against any applicant for training, whether a member of a minority group or not.

(d) Do not employ a person as a trainee in any classification in which he/she has successfully completed a training program leading toward journeyman status or in which he/she has been employed as a journeyman. Candidates may be trained a maximum of 3 times as long as the training is not repetitious in the scope of work and is not on the same project. Those candidates having attained journeyman status would be acceptable as trainee candidates only in classifications where they have

not attained journeyman status. Satisfy this requirement by including appropriate questions in the employee application or by other suitable means. Regardless of the method used, provide records documenting the findings in each case.

(e) The minimum length and type of training for each classification will be as established in the training program selected and submitted to and approved by the Department. The Department will approve a program if it is reasonably calculated to meet the project equal employment opportunity obligations and gives meaningful training to move candidates toward journeyman status. Furthermore, apprenticeship programs registered with the U.S. Department of Labor, Bureau of Apprenticeship and Training, or with a State apprenticeship agency recognized by the Bureau and training programs approved but not necessarily sponsored by the U.S. Department of Labor, Manpower Administration, Bureau of Apprenticeship and Training will also be considered acceptable provided they are being administered in a manner consistent with the equal employment obligations of Federal-aid highway construction contracts. Obtain approval or acceptance of a training program and training candidate from the Department prior to commencing work on the classification covered by the program. It is the intention of these provisions that training is to be provided in the construction crafts rather than clerk-typists or secretarial-type positions. Training is permissible in lower level management positions such as office engineers, estimators, timekeepers, etc., where the training is oriented toward construction applications. Training in the laborer classification may be permitted provided that significant and meaningful training is provided and approved by the Department. Some offsite training is permissible as long as the training is an integral part of an approved training program and does not comprise a significant part of the overall training.

(f) Furnish the trainee a copy of the program he/she will follow in providing the training.

(g) Provide each trainee with a certification showing the type and length of training satisfactorily completed.

(h) Provide for the maintenance of records and furnish required reports documenting his/her performance under this Special Provision.

(i) Pay no less than the common laborer rate for this project to any trainee performing in a construction craft (percentage payments are no longer in effect). Pay non-construction crafts, such as timekeeper, office manager, and surveyor, the fair market rate for those services or classifications. Trainees in construction crafts may remain at the common laborer rate throughout the training program. Upon completion, pay trainees in accordance with wage rates scale for this contract for work performed. In the case of apprentices, the appropriate rates approved by the Federal Departments of Labor or Transportation in connection with the existing program apply to all trainees being trained for the same classification who are covered by this Special Provision.

III. MEASUREMENT AND PAYMENT - Hour

Will be paid as follows:

(a) Except as otherwise noted below, payment will be made per hour of training given an employee on this contract in accordance with an approved training program. As approved by the Engineer, payment will be made for training persons in excess of the number specified herein. Payment for offsite training indicated above may only be made where one or more of the following is done and the trainees are concurrently employed on a Federal-aid project; contributes to the cost of the training, provides the instruction to the trainee or pays the trainee's wages during the offsite training period.

(b) No payment will be made due to failure to provide the training required as stated in the approved training program. Make every good faith effort to retain the trainee upon completion of the training program, if work continues to be available in that classification. It is normally expected that a trainee will begin his/her training on the project as soon as feasible after start of work utilizing the skill involved and remain on the project as long as training opportunities exist in the work classification or until he/she has completed the training program. It is not required that all trainees be on board for the entire length of the contract. Responsibilities will have been fulfilled under this Special Provision if acceptable training has been provided to the number of trainees specified. Determine the number trained on the basis of the total number enrolled on the contract for a significant period.

Project Specific Details:

1. The number of trainees to be trained under this contract as referred to in para I. is: 1

D29902A - c8000 ITEM 8914-0001 DESIGN TRAFFIC CONTROL PLAN

Addendum: 3

Associated Item(s): 8914-0001

Header:
ITEM 8914-0001 DESIGN TRAFFIC CONTROL PLAN

Provision Body:

I. DESCRIPTION - This work is the design and plan preparation for required maintenance and protection of traffic during construction.

II. DESIGN –

(a) General. Provide design and drawings in the units of measurement shown on the Conceptual Roadway Plans.

Design Traffic Control Plan is to be in agreement with Design Roadway Plan (including also plans).

(**b) Additional Designer Qualifications.** None

(c) Design Specifications. Design a TCP in accordance with the Special Provision titled SPECIAL BIDDING – DESIGN-BUILD, Section VIII – General Design Requirements, Design Specifications.

(d) Design Requirements.

Maintenance of Traffic During Construction.

1. Develop an Incident Management Plan (IMP). None

2. Develop a TCP. Meet the requirements of and maintain traffic as follows:

> Provide plan sheets showing a detailed schematic of each anticipated short-term and long term work area. Include specific start and stop work locations for each set up and also details and typical sections for anticipated work areas. Include reference and dimensions to locations of any merge tapers, one-way tapers, lane shifts, temporary pavement marking removal and placements, and any other pertinent traffic control information. Utilize deceleration lanes for off-ramps within the work area.

Design in accordance with the Road User Liquidated Damage Specification and the following conceptual phasing.

Phase 1A – the work area will be the passing lanes from the Turnpike Overpass near the Bedford Interchange (SR 8007) to the SR 56 Interchange (SR 8009). Major work activities are as follows.

- Median grading and High Tensioned Cable Median Barrier Placement
- Pavement Base Repair and Milling Operations
- Thin Overlay
- Shoulder Backup / Mulching and Seeding
    - Long term lane closures in the passing lanes

Phase 1B –the work area will be the travel lanes and Ramps from the Turnpike Overpass near the Bedford Interchange (SR 8007) to the SR 56 Interchange (SR 8009). Major work activities are as follows.

- Pavement Base Repair and Milling Operations
- Thin Overlay
- Shoulder Backup / Mulching and Seeding
    - Long term lane closures in the travel lanes
    - Short term lane closures on the ramps and deceleration/acceleration lanes

Phase 2A – the work area will be the passing lanes from the SR 56 Interchange (SR 8009) to the SR 869 Interchange (SR 8011). Major work activities are as follows.

- Pavement Base Repair and Milling Operations
- Thin Overlay

- Shoulder Backup / Mulching and Seeding
    - Long term lane closures in the passing lanes

Phase 2B – the work area will be the travel lanes and Ramps from the SR 56 Interchange (SR 8009) to the SR 869 Interchange (SR 8011). Major work activities are as follows.

- Pavement Base Repair and Milling Operations
- Thin Overlay
- Shoulder Backup / Mulching and Seeding
    - Long term lane closures in the travel lanes
    - Short term lane closures on the ramps and deceleration/acceleration lanes

Phase 3A – the work area will be the passing lanes from the SR 869 Interchange (SR 8011) to SR 4034 Interchange (SR 8013). Major work activities are as follows.

- Pavement Base Repair and Milling Operations
- Thin Overlay
- Shoulder Backup / Mulching and Seeding
    - Long term lane closures in the passing lane

Phase 3B – the work area will be the travel lanes and Ramps from the SR 869 Interchange (SR 8011) to SR 4034 Interchange (SR 8013). Major work activities are as follows.

- Pavement Base Repair and Milling Operations
- Thin Overlay
- Shoulder Backup / Mulching and Seeding
    - Long term lane closures in the travel lanes
    - Short term lane closures on the ramps and deceleration/acceleration lanes

Phase 4A – the work area will be the passing lanes from the SR 4034 Interchange (SR 8013) to SR 2027 Interchange (SR 8027). Major work activities are as follows.

- Pavement Base Repair and Milling Operations
- Thin Overlay
- Shoulder Backup / Mulching and Seeding
    - Long term lane closures in the passing lanes

Phase 4B – the work area will be the travel lanes and Ramps from the SR 4034 Interchange (SR 8013) to SR 2027 Interchange (SR 8027). Major work activities are as follows.

- Pavement Base Repair and Milling Operations
- Thin Overlay
- Shoulder Backup / Mulching and Seeding
    - Long term lane closures in the travel lanes
    - Short term lane closures on the ramps and deceleration/acceleration lanes

Phase 5 – This phase takes place after the major paving activities are complete. Major work activities are as follows.

- Guide Rail and End Treatment Installation
- Clean Pipes
- Place recessed markings
- Install Rumble Strips

Short term lane closures:

Include in the Traffic Control Plan (TCP) all the Maintenance and Protection of Traffic General Notes, Index Sheets, a legend showing all traffic control devices and symbols, a sequence of construction and construction narrative, and tabulation of traffic control devices included in ‘Construct Maintenance and Protection of Traffic’.

Traffic Control Zone Regulatory Speed Reduction (TE-162) will be evaluated and if found to be warranted, will be implemented as part of the project.

The Automated Work Zone Enforcement will be evaluated and if found to be warranted, will be implemented as part of the project.

Traffic Control Plan Typical Sections:

Provide traffic control plan typical sections. Maintain a minimum total clear roadway width of 14 foot, consisting of 12’ travel lane and 1’ shoulders.

Traffic Control Plan Geometric Views: Provide a graphical representation of all key traffic control design elements including but not limited to the following: traffic taper lengths and locations, temporary concrete barrier including start and stop locations, stop bars and any other key features that may be associated to the design and construction of the project. Note offset stations on all features. Clearly indicate the limits of roadway work to be completed in each phase of the Traffic Control Plan.

Pavement Markings and Delineation:

Remove existing conflicting pavement markings. At all locations where traffic has been shifted towards any guide rail (existing, temporary, or new) provide one-way Type B guide rail mounted delineators per the TC- Standards.

At all locations where traffic has been shifted towards any bridge barrier (existing or new) provide two-way top mounted Type P delineators at 20' spacing.

Provide two-way top mounted Type WZ delineators at 20' spacing and 6" standard pavement markings, paint and beads, on any temporary concrete barrier.

Provide temporary pavement marking ~~width of 4 inches~~ to match existing pavement markings. All markings over winter will be reflective.

Pavement markings are not required adjacent to temporary concrete barrier in accordance with the TC-Standards.

Sequential lighting is to be used at the merge taper at the beginning of the long-term work zone. Draft special provision attached.

Steady Burn lights are to be used on off-ramps at the exits.

Signs:

Provide long-term signing in accordance with Publication 213.

Mount all long-term signs on Type III barricades.

Utilize stops signs at on-ramps within the work area.

Include work zone automated speed enforcement devices

Barrier:

Single-Face concrete barrier may be used to maximize travel lane width only. If single face barrier is used provide a barrier transition piece between the roadway barrier and structure mounted barrier in accordance with Publication 213. Do not saw-cut a section of barrier to fit in place. Transition barrier must be cast as one unit.

Temporary concrete barrier design: All temporary concrete barrier must be placed to meet applicable flare rates. Provide all calculations for any temporary barrier design with respect to clear zone and requirements for length of need. Provide taper and flare rates on any barrier in accordance with PennDOT Design Manual 2 and the RC Standards.

Guide rail and barrier requirements must be met at all times. Reset existing guide rail or provide temporary guide rail as necessary. Reset or replace guiderail prior to opening roadway to normal flow traffic. Provide documentation of length of need and flare rates for any temporary guide rail.

Do not utilize temporary concrete barrier to shift traffic. If temporary barrier is proposed to be used, all shifting tapers and merge tapers must be fully completed a minimum distance of "½ L" prior to the start of the concrete barrier.

3. Develop Final Transportation Management Plan - None

(e) Submissions.

1. Preliminary Plan Submission. In accordance with Publication 14M, Design Manual Part 3, Chapter 4. Submit the plans at required scale including:

- Plans for each required stage
- Proposed Temporary Signing and Pavement Markings
- Traffic Control Details as required

Include phases and sequences, detours, traffic flow arrows (one per each lane of traffic), line striping, channelizing devices, arrow panels, temporary concrete barrier, temporary impact attenuators, barricades, and construction areas hatching.

2. Final Plans and Computations. In accordance with Design Manual, Part 3, Chapter 4. Submit the plans at required scale indicating all phases and sequences, and all signs and devices. Provide tabulation of all items associated with each phase, site, sequence and detour as shown on the TCP.

Upon release of the Contractor's design plans and computations, the plans become the Final Traffic Control Plans for the project. Upon written notice of completion of review by the Department and receipt of the Final Traffic Control Plans stamped "Released for Construction," submit ***1*** set of signed and sealed prints and an electronic PDF copy.

3. Revisions During Construction. Any changes to the Final Traffic Control Plans must be submitted as revisions for review by the Department. Do not deviate from the Final Traffic Control Plans until notice of completion of review of the revisions by the Department.

(f) Submittal Review, Approval, and Distribution

Make all submissions in accordance with the Special Provision titled SPECIAL BIDDING – DESIGN-BUILD, except as follows;

- Partial Plans Submissions: None

III. MEASUREMENT AND PAYMENT - Lump Sum

Partial payment will be made for the design activity based on the approved Schedule of Values in accordance with Section IX of the Special Provision titled SPECIAL BIDDING – DESIGN-BUILD, utilizing the following components:

- Incident/Transportation Management Plan Approval ***- 10%***
- Preliminary Plan Approval ***- 40%***
- Final Plan Approval ***- 50%***

D29903A - c8000 ITEM 8915-0001 CONSTRUCTION OF MAINTENANCE AND PROTECTION OF TRAFFIC

Addendum:

Associated Item(s): 8915-0001

Header:

ITEM 8915-0001 CONSTRUCTION OF MAINTENANCE AND PROTECTION OF TRAFFIC

Provision Body:

I. DESCRIPTION - This work is the construction of the maintenance and protection of traffic according to the approved Traffic Control Plan developed as part of the ITEM 8914-0001 Design Traffic Control Plan.

II. MATERIAL - As indicated and as specified in the Traffic Control Plan.

III. CONSTRUCTION - In accordance Publication 408; the Special Provisions of the contract; and any additional requirements specified herein.

Traffic Control Plan in accordance with ITEM 8914-0001 DESIGN TRAFFIC CONTROL PLAN.

Each traffic phase switch and phase implementation shall occur on a Tuesday through Thursday timeframe. Start physical work within 24 hours of any traffic switch in the subject phase. Do not switch traffic on a Friday to begin work on a Monday.

Do not install a long-term lane closure on northbound or southbound SR 0099 for any phase of the project more than 24 hours prior to the start of physical work for that respective phase. (i.e. If long-term lane closures are established the same day in both directions, physical work must start in both directions within 24 hours).

One lane in both directions must be open at all times.

Any traffic stoppages (emergencies excluded) or "rolling" road closures, regardless of their duration, must be approved by the District Traffic Unit. This includes any traffic stoppages or "rolling" road closures used when changing traffic control patterns.

Restrictions on Physical Length of I-99 Lane Closures:

The maximum length of lane closure is 5 miles.

Therefore, do not close lanes for adjacent phases at the same time.

Work can be performed concurrently as long as there is approximately 2 miles (minimum) of SR 99 open with no lane

restrictions between the phases of work being performed.

Lane Closure Time and Date Restrictions:

OPERATIONAL REQUIREMENTS:

Short-term Publication 213 lane closures are not permitted during the following time frames:

Memorial Day - May 28, 2021 at 6 am until May 31, 2021 at 9 pm

Independence Day – July 2, 2021 at 6 a.m. until July 5, 2021 at 6 p.m.

Labor Day - September 3, 2021 at 6 a.m. until September 6, 2021 at 6 p.m.

Easter - April 15, 2022 at 6 am until April 18, 2022 at 6 am

Memorial Day - May 27, 2022 at 6 am until May 30, 2022 at 9 pm

Independence Day - July 1, 2022 at 6 am until July 4, 2022 at 9 pm

No long-term lane closures are permitted between November 1, 2021 and March 31, 2022.

Coordinate working schedule and traffic control patterns with any adjacent Department projects.

Designate a person as the project traffic control coordinator. At least 50 percent of this individual's duties will be traffic control related. Duties include, but are not limited to, the following:

Coordinate all traffic control installations, pattern changes, and removals.

Inspect long-term traffic control devices and patterns each working day.

Inspect each short-term traffic control pattern that is set up.

Document the details of these inspections (items inspected, deficiencies discovered, and action taken to correct the deficiencies) and give to inspector in-charge on daily basis.

Program changeable message signs if signs are required or deemed necessary by the project representative.

Do not park personal vehicles or equipment on or along the shoulder of the roadway and in accordance with Publication 213.

Provide minimum 14 calendar day advance notice to the PennDOT Bedford and Blair County Maintenance

Managers, PennDOT District 9-0 Permit Office, respective Fire, EMS, and Police Emergency Services, Pennsylvania State Police, Local School District and Municipalities prior to beginning any work, imposing any traffic restrictions or implementing any detour.

Pavement markings must be placed prior to opening to traffic. All final pavement markings are to be placed before completion of the project.

If anticipating a longitudinal drop-off condition; refer to Section 901.3 (j) of Publication 408. Do not store any material, equipment, or vehicles within 30 feet of any open travel lane during construction of the project unless it is protected by an approved longitudinal barrier or is located more than 2 feet behind vertical face roadway curb.

CHANGEABLE MESSAGE SIGNS (If Required or Directed):

Place and program the changeable message signs as directed. Relocate and/or reprogram as directed. Usages include, but are not limited to, the following:

- notifying motorists of the start date of work
- providing specific messages related to the traffic control patterns

Refer to PATA 009 of Publication 213 (2014) for additional requirements related to portable message board placement.

TRAFFIC CONTROL DEVICES REQUIREMENTS:

The signs and traffic control devices listed or as indicated on the construction plans or Publication 213 represent the minimum requirements for this item and as such, are for information only. The number and types of traffic control signs and devices for this project will be predicated on the number and location of work sites, the extent of repairs and the planned sequence of operations.

Place all short-term signing in accordance with respective Publication 213 Figures indicated on the construction plans.

When covering conflicting signs, do not place adhesive on the sign face. Place adhesive on the back of the sign. Any reflective sheeting damaged by adhesive constitutes damage to the sign. Replace the sign at no additional cost to the Department. For signs which are frequently covered and uncovered based upon work schedules, provide a cover which permits the entire sign face (including the border and margin) to be visible when the sign is uncovered.

Provide new condition traffic control signs and devices and maintain as such throughout the duration of the project. Do not use reflective sheeting that is scratched, scarred, dirty or shows evidence of loss of reflectivity. Do not use signs or devices that are cracked, bent, dented or broken.

Provide and install channelizing devices spaced as indicated on the Traffic Control Plan or in accordance with Publication 213. Payment for these items is incidental.

Provide all signs with Type III fluorescent orange or Type VII fluorescent orange reflective sheeting. Replace reflective sheeting should it become damaged where reflectivity becomes impaired. Immediately repair or replace damaged, defaced or dirty signs, devices or barrier.

Mount all construction warning signs (W series) for long-term operations on Type III barricades. If it is not possible to mount construction warning or other signing as indicated or specified, the District Traffic Engineer will determine the method of mounting the signs.

Use channelizing devices with Type C steady burn lights for all nighttime lane restrictions. Mount the Type C light on each device used in transition areas.

When bituminous surfaces have been milled in preparation for an overlay, minimize the time that traffic is exposed to the milled roadway surface. If possible, apply the overlay the same day that the milling occurs. If an overlay is not installed the same day that the surface is milled, install "ROUGH ROAD" signs (W8-8) in advance of each milled area.

As applicable, cover any existing conflicting route markers and/or modify the directional arrows on the markers to comply with the detour routes.

The number of channelizing devices shown on the plan does not necessarily depict the number of devices required.

Install and maintain reduced regulatory speed limit signs in work areas, if implemented on the Traffic Control Plan. Temporarily remove or cover reduced regulatory speed limit signs, except when workers are present adjacent to a travel lane without a positive barrier separating vehicles and workers or when the Engineer determines one of the following conditions exist:

Potential hazard exists on, or adjacent to, the roadway.

Physical restrictions exist; such as narrowed travel lanes, median crossovers, and lane shifts.

Reduced speeds are desirable for safety.

The Engineer will notify the Contractor, in writing, when one or more of these conditions exist. The notification will include locations, speed limits and a schedule of time periods when the reduced regulatory speed limit is to be in effect.

During certain operations it may be necessary to provide flagging operations for the duration of the work operations. Provide proper flagging for the area as directed. Place the signals on emergency flash mode and manually control each leg of the intersection(s). This operation will also be as directed by the inspector-in-charge.

If construction operations require flagging, provide sufficient number of properly attired flaggers (Current OSHA standard vest, hard hat, stop/slow paddle or red flag) to adequately control traffic flow through the work zone, which includes any intersecting streets in the work zone, and as directed.

GUIDE RAIL:

Guide rail must be replaced within five calendar days of being removed. When a no guide rail condition is present, the adjacent lane must be closed.

PAVEMENT MARKINGS:

Remove all conflicting pavement markings.

Remove existing reflective pavement markers within all merging tapers, shifting tapers, and at any locations where traffic has been shifted.

USE OF MEDIAN CROSSOVERS:

Work vehicles other than passenger cars or four-wheeled pickup trucks may not use the median crossovers unless both the northbound and southbound passing lanes are closed adjacent to the crossover, and then only if these lanes are already closed to perform physical contract work (i.e. Do not establish a lane closure for the sole purpose of facilitating work vehicles' usage of the median crossovers). Where both passing lanes are not closed, use the existing highway network and interchange ramps to turn around.

Work Zone Liquidated Damages in accordance with Section 901 in Publication 408 will be applied for noncompliance of any of the project Maintenance and Protection of Traffic Restrictions.

IV. MEASUREMENT AND PAYMENT - Lump Sum

The Department will measure and pay for this item in a proportionate manner based on current estimates. If an item or device is required for maintenance and protection of traffic, the cost of the item is incidental to this item, without exception.

00 - c9000 ITEM 9000-0002 WEIGHTED SEDIMENT FILTER TUBE

Addendum:

Associated Item(s): 9000-0002

Header:
ITEM 9000-0002 WEIGHTED SEDIMENT FILTER TUBE

Provision Body:

I. DESCRIPTION - This work is furnishing, placing, maintaining, and removing weighted sediment filter tubes.

II. MATERIAL -

- AASHTO No. 57 Stone - Section 703
- 18" Sediment Tube - Section 867
- Metal T-Post - Section 1105

III. CONSTRUCTION - Construct Weighted Sediment Filter Tubes as indicated and as directed. Place the tube in concentrated flow areas and stake with T-posts to prevent movement. Install the T-posts at the center and at each end of the tube to secure it. Place T-posts at 2 foot maximum intervals. Inspect the tubes weekly and remove sediment when it reaches half the height of the tube. Replace any damaged tubes within 24 hours at no additional cost.

IV. MEASUREMENT AND PAYMENT - Linear Foot.

00 - c9000 ITEM 9000-0004 6" RECESSED WHITE REFLECTIVE PAVEMENT MARKING TAPE

Addendum:

Associated Item(s): 9000-0004

Header:
ITEM 9000-0004 6" RECESSED WHITE REFLECTIVE PAVEMENT MARKING TAPE

Provision Body:

I. DESCRIPTION - This work consists of furnishing and installing permanent preformed patterned reflective pavement (PPPRP) markings as specified in the Contract Documents and as directed by the Representative.

II. MATERIAL -

- Permanent Preformed Patterned Reflective Pavement Marking.
  - 3M™ Stamark™ High Performance All Weather Tape Series 380AW & 381AW distributed by: 3M Traffic Control Materials Division, 3M Center, Building 582-1-15, St. Paul MN 55144-0100. (800) 553-1380
  - Approved Equal
- Surface Preparation Adhesive.
  - 3M™ Low VOC Surface Preparation Adhesive SPA60 distributed by: 3M Traffic Control Materials Division, 3M Center, Building 582-1-15, St. Paul MN 55144-0100. (800) 553-1380
  - Approved Equal

III. CONSTRUCTION -

Apply the PPPRP markings and surface preparation adhesive according to the manufacturer's installation instructions and as directed by the Representative. Line marking configurations are according to Traffic Control Standard TC-8600.

(a) Installation -

Recess the PPPRP markings into the final pavement surface. This includes newly paved asphalt after the final rolling of the surface, concrete pavement, concrete bridge decks and interchange ramps.

Diamond cut the recessed area to a depth of 150 mils. The grinding shall exceed the width of the pavement markings by one (1) inch. A Typical groove width shall be one (1) inch plus the width of the pavement marking. For skip lines, cut the recessed area 12 feet in length with a minimum tolerance of +6 inches on either end.

Marking operations shall not begin until applicable surface preparation work is completed and approved by the Representative, and the atmospheric conditions and pavement surface temperature is within the tolerances set by the manufacturer and is acceptable to the Representative.

PPPRP markings are to be recessed into the pavement and be resistant to deformation from traffic and damage from snow removal equipment.

Surface preparation adhesive is to be applied to all PPPRP markings according to the manufacturer's recommendations.

Apply all PPPRP markings in the direction of traffic.

Apply PPPRP markings by the following simultaneous operation:

1. Groove pavement in the area to receive the markings to a depth of 150 mils.
2. The grooved pavement surface is air-blasted with dry air to remove dirt and residues.
3. Apply surface preparation adhesive to the grooved pavement surface and allow to set following the manufacturer's detailed recommendations.
4. Apply tape in the groove following the manufacturer's detailed recommendations.
5. Tamp the tape thoroughly with a minimum of six (6) passes (three passes forward and three passes back) over the surface of the new tape in the groove.

(b) Equipment -

The grinding equipment shall be equipped with a free-floating cutting or grinding head to provide a consistent groove depth over irregular pavement surfaces. The grinding or cutting head shall be equipped with diamond saw blades, steel star cutters and/or carbide tipped star cutters. The grinding equipment must be capable of producing a final pavement surface that is free of ridges.

Grinding shall be performed at locations and in accordance with the details in the Contract Plans.

Wet Saw Blade Operation: When water is required or used to cool the saw blades, such as during a continuous edge line grinding operation, the groove shall be flushed with high pressure immediately following the cut to avoid build-up and hardening of slurry in the groove. The pavement surface shall be allowed to dry prior to the application of the pavement marking.

Properly dispose of the water resulting from the grinding operation.

Dry Saw Blade Operation: If the grooving is done with dry saw blades, debris and dust shall be cleaned and removed by means of vacuum immediately after grinding.

(c) Surface Preparation:

Clean the roadway surface where the PPPRP markings will be applied. Remove all surface treatment, laitance, curing compound, or any other contaminants that would hinder adhesion. Clear any loose dirt and other debris from the area where the PPPRP markings will be applied with compressed air. Surface preparation is incidental to the application of the PPPRP markings. Use material and equipment that will not damage the final pavement surface and that will show the final lines on which the pavement markings will be placed. Place guide markings for all permanent

pavement markings. Identify the location of the pavement markings by applying guide markings on the pavement at 40-foot intervals. The Representative will approve the locations.

(d) Disposal of Material: Remove and dispose of milling and/or grinding slurry by a method approved by the Representative.

(e) Tamping:

Tamp the tape thoroughly with a minimum of six (6) passes (three passes forward and three passes back) over the surface of the new tape in the groove.

Use a vehicle tire as recommended by the manufacturer.

Tape application in the groove will require tamping with a vehicle tire. Tamping the edges of the tape is very important. The vehicle used to tamp the tape shall be recommended by the manufacturer and approved by the Representative. Do not twist or turn the vehicle tire on the tape and make sure all edges are firmly adhered.

(f) Manufacturer's Recommendations. Provide a copy of the manufacturer's recommendations to the Representative.

(g) Manufacturer's Certification. Provide a notarized copy of the manufacturer's certification including the material's date of manufacture and National Transportation Product Evaluation Program (NTPEP) code number.

(h) Adherence. Randomly check adherence of PPPRP markings any time after the asphalt has cooled but before the end of the observation period by using a paint scraper or other approved tool, held parallel with the highway surface. The edge of the material shall be scraped lightly and there shall be no dislodging of the tape. Notify the Representative to witness this procedure. Perform one adherence test for each line applied on each shift.

(i) Retroreflectance.

The white and yellow markings shall have the initial expected retroreflectance values as shown in Table 1 under dry conditions. Measure the coefficient of retroreflected luminance (RL) expressed as millicandelas per square meter per lux (mcd/m2/lx).

Measure retroreflectance values under dry conditions in accordance with the testing procedures of ASTM E1710 and in accordance with PTM No. 431.

See figure 1 in ASTM D7585 for an example of how to space individual readings. For dry measurments, mobile equipment can be used as a substitute for handheld equipment.

Table 1

Expected Initial R_L Under Dry Conditions.

White	Dry
Entrance Angle	88.76^o
Observation	1.05^o
Retroreflected Luminance R_L (mcd/m^2/lx)	500
Yellow	
Entrance Angle	88.76^o
Observation Angle	1.05^o
Retroreflected Luminance R_L (mcd/m^2/lx)	300

Note: The test instrument shall use an Entrance Angle of 88.76° and Observation Angle of 1.05° which represent a simulated driver viewing geometry at a 30 meter distance.

Beads - Index of Refraction: All “dry-performing” microcrystalline ceramic beads bonded to the polyurethane-coated, patterned surface of the material shall have a minimum index of refraction of 1.70 when tested using the liquid oil immersion method. All “wet-performing” microcrystalline ceramic beads bonded to the polyurethane-coated, patterned surface of the material shall have a minimum index of refraction of 2.30 when tested using the liquid oil immersion method. The glass beads mixed into the pliant polymer shall have a minimum index of refraction of 1.5 when tested by the liquid oil immersion method.

(j) Observation Period.

Be responsible for any defects in materials and workmanship of the PPPRP markings for a period of 180 days from the date the markings are applied and under traffic.

At the end of the observation period, the Representative will inspect the pavement marking for durability, color and reflectivity; and inform the Contractor of all pavement markings that have failed and require replacement. The pavement marking will be considered failed for any of the following conditions:

1. The substrate is exposed in any section of longitudinal pavement marking line.
2. Inadequate adhesion or delamination as determined by the adhesion testing results.
3. Insufficient depth of the groove.
4. Retroreflectance values have dropped below 300 mcd/m²/lx for white or 220 mcd/m²/lx for yellow.
5. Marking is discolored on a visual comparison with the manufacturer’s provided color chips.

(k) Repair.

The Contractor shall remove and replace all failed PPPRP markings within 30 days of receiving written notification from the Representative at no additional cost to the Department. Work shall be in conformance with the manufacturer’s recommendations and as approved by the Representative before the project is accepted. The replacement markings shall conform to the same requirements as the original markings.

Remove and replace PPPRP placed incorrectly. Repair the PPPRP, which the Department determines to be defective. Remove the defective PPPRP by grinding or blasting clean the area to completely remove the defective PPPRP. Remove loose particles and debris with compressed air. Install new PPPRP by inlaying into the clean groove. Apply an adhesive to the PPPRP as recommended by the manufacturer. Installation of the PPPRP is to follow temperature guidelines provided by the manufacturer. Complete this work at no additional cost to the Department. Defective work includes the following:

1. Insufficient line width or uneven cross-section.
2. Inadequate retroreflectivity.
3. Poor Adhesion, Delaminating.

IV. MEASUREMENT AND PAYMENT - Linear Foot.

I9000C - c9000 ITEM 9000-0005 UTILITY TEST HOLE

Addendum:

Associated Item(s): 9000-0005

Header:
ITEM 9000-0005 UTILITY TEST HOLE

Provision Body:

I. DESCRIPTION – This work is identifying, investigating, electronically and physically locating existing underground facilities.

II. MATERIAL – None

III. CONSTRUCTION – At the approximate point of possible conflict with the proposed improvement, excavate a test hole. Provide all measures necessary to perform the work safely and to cause no damage to the utility structure. The test hole will be of the minimum size required to expose the utility of interest and record the following information:

a. Depth below grade. (Maximum 5 feet depth)
b. Utility material, shape and overall condition.
c. Approximate diameter of pipes or conduits
d. The general direction trend of the utility.

Backfill test hole with excavated material in 6” lifts by air pneumatic tamping. Soil placed within 1 foot of the exposed utility will be clean and tamped carefully. Backfill material will be adequately compacted to prevent later subsidence of the test hole. Provide select backfill materials, such as insulating sands and gravels when needed. Restore test hole area to original condition. Ribbon of appropriate APWA/ULCC color will be installed in the backfill from utility to grade.

Record the location of the utility with a minimum of 3 (three) swing tie measurements to convenient existing permanent structures on the site.

Survey test hole locations with a total station survey instrument and data collector relevant to the Department provided project control. Process survey locations to provide northing, easting and grade/ utility elevations. Generate stations and offset for the test holes if baseline geometry is provided.

IV. MEASUREMENT AND PAYMENT - Each

I1B - c9000 ITEM 9000-0090 LOCATION OF UNDERGROUND HIGHWAY LIGHTING FACILITIES

Addendum:

Associated Item(s): 9000-0090

Header:

ITEM 9000-0090 LOCATION OF UNDERGROUND HIGHWAY LIGHTING FACILITIES

Provision Body:

I. DESCRIPTION – This work consists of identifying, locating, and marking underground components of the existing highway lighting facilities not limited to direct burial wire, conduit encased wire, junction boxes, etc.

II. MATERIAL – None

III. CONSTRUCTION – Provide all measures necessary to perform the work safely and to prevent damage to underground highway lighting facilities.

Use acceptable non-destructive location devices and equipment to accurately locate underground components. Perform test holes if required.

Clearly mark wire and conduit runs on the ground surface using marking paint and flagging of the appropriate color.

IV. MEASUREMENT AND PAYMENT - Dollar

Payment will be for individual guiderail repair location’s where highway lighting facilities are present. During guiderail repair, any damage to the existing highway lighting system due to the contractor’s failure to accurately locate and mark the facilities will be repaired at no additional cost to the Department.

The proposal will include an item and a predetermined amount of money for ***Location of Underground Highway Lighting Facilities***.

The contract item will have a unit of measure of Dollar, a unit price of $1.00, and a quantity equal to the predetermined amount.

Due to the contingent or unpredictable nature of the work being performed, the provisions of Section 110.02(d) are not applicable to this item.

Measured and paid for, under the ***Location of Underground Highway Lighting Facilities*** item as follows:

(a) Contract Items. The Department will pay for performance of work, identified as having similar items listed in the contract, at the contract unit price.

(b) Non-Contract Items. The Department will pay for items of work not identified in the contract as follows:

1. Negotiated Price. At price agreed upon with the Department before performing the work. If applicable, agreement is also required with FHWA.

2. Force Account Basis. Section 110.03(d)

I1A - c9000 ITEM 9629-0001 HIGH-TENSIONED CABLE BARRIER SYSTEM

Addendum: 3

Associated Item(s): 9629-0001

Header:
ITEM 9629-0001 HIGH-TENSIONED CABLE BARRIER SYSTEM

Provision Body:

I. DESCRIPTION -

This work is furnishing and installing a high-tension cable barrier system, with concrete post foundations with sockets, at the locations indicated on the plans or as directed by the Representative, including all appurtenances and hardware.

Includes all related hardware, grading, embankment, and excavation not separately specified, as required by the manufacturer and the Representative.

Maximum allowable dynamic deflection of the installed system is 8 feet.

Maximum allowable post spacing of the installed system is 10 feet.

Minimum allowable post foundation depth is 48” and must be 6” below frost depth.

II. MATERIAL -

Furnish all material needed to complete a continuous segment of high-tension cable barrier system including, but not limited to, end anchor terminals, prestretched cables, turnbuckles, cable ends, intermediate anchor assemblies, bolts, nuts, and other hardware required by the manufacturer. Galvanize all hardware, including post sleeves and sockets, as specified in Section 1105.02(s) (AASHTO M 111).

a. **High-Tension Cable Barrier** - Meet NCHRP Report 350 or Manual for Assessing Safety Hardware (MASH) Test Level 4 requirements (minimum) utilizing a four-cable system listed in Bulletin 15.
b. **Class A and Class AA Cement Concrete** - Section 704
c. **Reinforcement Bars** - Section 709.1
d. **Reflective Sheeting -** Use any Bulletin 15 Approved sheeting
e. **Certification** - Section 106.03(b)3.

III. CONSTRUCTION –

a. **Pre-Construction Submittals**

1. ~~In areas that appear to have soils with high organic content or that are saturated for extended periods of time, site specific investigation/borings should be conducted at locations 1,500-2,000 feet apart. Drill each roadway boring to a depth of 10 feet, or 5 feet into rock, whichever occurs first. Water table (if encountered) should be shown on boring log. Prepare and deliver the boring inspection information as specified in Publication 222, Section 4.11. Submit a proposed design to account for the soil type.~~
2. Prepare and submit shop drawings as specified in Section 105.02(d). At a minimum, include the following in the shop drawings to cover all runs of high-tension cable barrier:
    - General notes and construction specifications
    - Height of each cable in the system
    - Installation tolerances
    - Post length and height of each post with respect to the ground level
    - Post spacing along entire length of system
    - Detailed drawings of all posts and hardware
    - Overall length of the cable barrier segment, including end terminals
3. Submit the items described in this section to the Representative at least 30 calendar days prior to planned construction and have them signed and sealed by a Professional Engineer, registered in the State of Pennsylvania. Include manufacturer's product brochure, specifications, and requirements. Within 16 calendar days after receipt, the Representative will notify the Contractor in writing of all additional information required and/or necessary changes. Submit the additional information and/or necessary changes within 7 calendar days of receiving comments from the Representative. The Representative will notify the Contractor within 7 calendar days, after receipt of the additional information, of the Department's acceptance or rejection.

b. **Installation**

1. Begin work only after all pre-construction submittals have been accepted in writing by the Representative.
2. Furnish the services of a Technical Representative who has complete understanding of the engineering and performance aspect of the system from the system manufacturer at the beginning and completion of installation operations and, when requested by the Representative, during installation operations. Provide the name of the Technical Representative to the Department a minimum of two weeks before beginning operations. Do not furnish a salesperson as a technical representative.
3. Before installation begins, provide the Representative with a sign-in log with signatures for workers who have completed the field installation training by the manufacturer for the system being installed. The installation contractor’s foreman or crew chief must provide an unexpired proprietary product(s) training certificate to the Representative before starting physical work.
4. Install at the locations indicated and in strict accordance with the manufacturer's instructions, specifications and installation procedures. Install posts and cables at a height, measured from finished ground (not the concrete encasement), conforming to the accepted pre-construction submittals and meeting manufacturer's guidance for tolerance. Install turnbuckles to connect two cables with a maximum spacing of 1000 ft between each turnbuckle.
5. Set line posts in metal sockets encased in concrete foundations extending to the End Anchor Terminal Assembly. Construct sockets in strict accordance with the manufacturer's instructions and specifications. Post foundations with metal sockets will be constructed to a minimum depth of 48 inches measured from the low side of the drilled hole and a minimum constant diameter of 12 inches. In all cases, post foundations must be 6 inches below the frost depth. Place concrete and reinforcement for all line post foundations below finished ground. In areas where random boulders, hardpan, or bedrock are encountered, and the specified socket cannot be constructed to full depth, drill a specified minimum diameter hole to the required depth in accordance with manufacturer's recommendations. Completely fill excavation with the same class of concrete used in the foundation.
6. High-tension cable median barrier must be installed at least 8 feet away from the median ditch. The recommended offset between high-tension cable median barrier and existing guide rail is from 8 feet to 12 feet.
7. Construct top of line post foundations and sockets to be flush with finished ground.
8. Do not install turnbuckles at posts or within 1 foot of a post. If needed, adjust post spacing while still providing a maximum 10 ft post spacing.
9. Any reduced post spacing or extra posts installed for performance in horizontal or vertical curves, to reduce deflection or for any other reason, is included in the price.
10. Replace any post and cables damaged during installation, as determined by the Representative, at no additional cost to the Department.
11. Repair all turf grass areas damaged during installation of high-tension cable barrier as specified in Section 804, at no additional cost to the Department.

12. Furnish and install delineation devices with reflective sheeting on posts according to the manufacturer's requirements. Install delineation devices not to exceed the spacing requirements for guide rail according to Standard Drawing TC-8604. Provide a minimum of 12 square inches of reflective sheeting placed as high as possible on the line posts. Verify that the reflective sheeting of all delineation devices is visible to approaching traffic for both directions.
13. In locations where a high-tension cable barrier end anchor terminal is near a permanent median crossover, install delineation devices on every line post within 100 feet of the end anchor terminal.
14. Provide delineation on every other post when any individual run of the system is within 4 feet of edge of shoulder.
15. In locations where high-tension cable barrier overlaps another roadside barrier, provide delineation only on the barrier system closest to traffic.
16. Provide delineation on posts adjacent to the deceleration lane of all median cross overs.
17. Provide high visibility delineation on all turnbuckles in every run of the system.
18. Perform initial cable tensioning after concrete for the line post foundations and the end anchor terminals has cured for a minimum of 3 days, and the concrete for the end anchor terminals has achieved a minimum compressive strength of 3,500 pounds per square inch. Tension cables to a minimum base design load for -25F. Cable tension must meet manufacturer's guidance and be within tolerance for different tensions for various temperature ranges. Recheck cable tension and adjust, if necessary, after a time period after initial tensioning according to the manufacturer's instructions, but no later than 5 days after initial cable tensioning. Prepare and submit tension logs to the Representative. At a minimum, each record must include the following information:
    - Ambient air temperature at the time of tensioning
    - Date tensioning was performed
    - Temperature of wire cable at the time of tensioning
    - The model and serial number of the tension testing device used
    - The location of each end terminal in the run being tensioned
    - The location where tensioning is being performed
    - A diagram showing the number assigned to each of the cables
    - The wire cable number being tensioned
    - The initial tension load in each cable
    - The final tension load applied to each cable
    - Any applicable installation notes
    - The name and signature of person conducting the tension testing

c. **Post-Construction Activities**

1. Tensioning Equipment and Material to be retained by the Department: For each County, furnish District Maintenance staff with tension meters, tools, equipment, and manuals that are required to maintain the installed high-tension cable barrier system that is bid. Contact the Bedford County Maintenance District, Mark J. Yeckley at (814-623-6144 , to schedule the time and place to deliver this equipment.

2. Training for Maintenance Forces and Emergency Responders. After the installation of the system and prior to final acceptance by the Department, the manufacturer is to provide training by a technical representative for the Department's maintenance contractor, Department County maintenance crews, and area emergency responders. Coordinate with the County Emergency Management Coordinator and County Maintenance Manager to schedule a time and place for the training. Furnish course content and materials certified by the manufacturer. The manufacturer is to provide a minimum of two hours of classroom instruction and a minimum of one hour of onsite instruction on maintenance and repair of the system. Provide the Representative with a log of individuals who received the training.

    Bedford Maintenance District

    First Name Last Name

    Office Phone

    Email

    Bedford County Emergency Management Director

    First Name Last Name

    Address Line 1

Address Line 2

Office Phone

Fax

Email

IV. MEASUREMENT AND PAYMENT - Linear Foot

Includes all material, engineering design cost ~~(including any necessary site investigation/borings)~~, labor, tools, equipment, and test equipment, necessary to construct a complete and functional High-Tension Cable Barrier System. Drilling of sockets through soil, rock, or other obstructions is incidental to this item.

I1A - c9000 ITEM 9629-0002 END ANCHOR TERMINAL, HIGH-TENSIONED CABLE BARRIER SYSTEM

Addendum:

Associated Item(s): 9629-0002

Header:

ITEM 9629-0002 END ANCHOR TERMINAL, HIGH-TENSIONED CABLE BARRIER SYSTEM

Provision Body:

I. DESCRIPTION -

This work is furnishing and installing a new End Anchor Terminal as indicated, including all appurtenances and hardware.

Includes all related hardware, grading, embankment, and excavation not separately specified, as required by the manufacturer and the Representative.

II. MATERIAL -

Furnish all material needed to complete an End Anchor Terminal including, but not limited to, reinforced foundation, end anchor post, cable release post, threaded swaged cable ends, anchor terminal ends, bolts, nuts, and other hardware required by the Manufacturer. Galvanize all hardware as specified in Section 1105.02(s) (AASHTO M 111).

a. **End Anchor Terminal** - Meet NCHRP Report 350 or Manual for Assessing Safety Hardware (MASH) Test Level 3 requirements (minimum) with a product listed in Bulletin 15.
b. **Class A and Class AA Cement Concrete** - Section 704
c. **Reinforcement Bars** - Section 709.1
d. **Curing and Protecting Covers** – Section 711.1
e. **Reflective Sheeting** – Use any Bulletin 15 Approved sheeting
f. **Certification** – Section 106.03(b)3

III. CONSTRUCTION –

a. **Pre-Construction Submittals**
    1. Submit a proposed design to account for the soil type. Prepare and submit shop drawings as specified in Section 105.02(d). At a minimum, include the following for each end anchor terminal:

        Borings and Soil Testing

        - Perform drilling by a prequalified geotechnical drilling contractor listed in Publication 222.
        - Prepare and deliver the boring inspection information as specified in Publication 222, Section 4.11. A minimum of one boring must be completed at each anchor terminal unless end anchor terminals are closely spaced.

- Obtain each boring within 25 feet horizontally of each proposed end anchor terminal location.
- Drill each boring to a depth of 25 feet, or 10 feet into rock, whichever occurs first. Show water table (if encountered) on boring log.
- At each boring location, laboratory testing will include soil and rock classification, soil strength and rock strength testing to determine the required in situ soil/rock parameters for design of the foundation.
- Testing will be performed by a certified AASHTO Materials Reference Laboratory (AMRL) using ASTM standards.

End Anchor Terminal Foundation Design

- Provide design for end anchor terminal foundations based on site specific soils for each end anchor terminal location.
    i. Design block anchor or drilled caisson (shaft) anchor according to Publication 15M, Design Manual Part 4 and AASHTO LRFD, including overturning, sliding (block anchor only), and reinforcement steel. Design all foundations and connections for the strength and service limit states as required in AASHTO Section 1.3.2 Limit States. Analysis should be performed for cable tension forces and impact forces and the most conservative design condition should be used for design. The minimum impact load for design should be 31 kips.
    ii. Support or resistance provided by the top 1 foot of soil is discounted and will not be included in the design of the end anchorage terminal.
    iii. Design end anchor terminal to limit cable movement to less than 1 inch. Any movements more than 1 inch within 12 months of installation, will be fixed by the Contractor at no additional cost to the Department.
    iv. Design end anchor terminal based on cable tension that accounts for temperatures to -25F.
    v. The bottom elevation of the end anchor foundation must be 6 inches below the frost depth. Frost depths are to be determined according to Publication 242, Pavement Design Manual, Appendix D.
    vi. One foundation design may be submitted for one or more end anchor terminal locations based on the most conservative roadway boring information.
- Based on the soil design parameters determined by borings and laboratory testing, submit a single Foundation Report for all end anchors within the limits of work to the representative for review. The following information must be included:
    i. Foundation Submission Letter
    ii. Project Location Map
    iii. Boring Location Map
    iv. Boring Logs (As Appendix)
    v. Laboratory Testing Summary
    vi. Laboratory Test Data Sheets (as Appendix)
    vii. Geotechnical Assumptions
    viii. Foundation Recommendations
    ix. Design Analysis (hand calculations and input and output from Department approved software for PY shaft deflection/load and deflection of drilled shafts. Include annotated references to sections of AASHTO/DM4)
    x. Foundation design should meet the requirements of AASHTO and Pub 15, DM-4.
    xi. Minimum depth of 36 inches, or 6 inches below the frost depth, whichever is greater.

2. Submit the Foundation Report to the Representative at least 30 calendar days prior to planned construction. The report must be signed and sealed by a Professional Engineer, registered in the State of Pennsylvania. Include manufacturer's product brochure, specifications, and requirements. Within 16 calendar days after receipt, the Representative will notify the Contractor in writing of any additional information required and/or necessary changes. Submit the additional information and/or necessary changes within 7 calendar days of receiving comments from the Representative. The Representative will notify the Contractor within 7 calendar days, after receipt of the additional information, of the Department's acceptance or rejection.

b. **Installation**
1. Begin work only after all pre-construction submittals have been accepted in writing by the Representative.
2. Furnish the services of a Technical Representative who has complete understanding of the engineering and performance aspect of the system from the system manufacturer at the beginning and completion of installation operations and, when requested by the Representative, during installation operations. Provide the name of the

Technical Representative to the Department a minimum of two weeks before beginning operations. Do not furnish a salesperson as a technical representative.

3. Field verify the exact locations of the end anchor terminals with the Representative.
4. Construct top of foundations for end anchor terminals to be flush with finished ground.
5. Construct end anchor terminals at the locations indicated and in strict accordance with the manufacturer's instructions, specifications, and installation procedures. End anchor terminal foundations will be constructed in strict accordance with the approved drawings. If a block anchor is used, the foundation should be placed to a minimum depth of 36 inches or deeper if warranted based on frost line, weather, soil conditions, etc. In all cases, the bottom of the foundation should be 6 inches below the frost line. Place concrete for all end anchor terminals below finished ground.
6. For each end anchor terminal, mold one concrete QC cylinder to be tested for compressive strength. Cure the QC cylinders as specified in Section 704.1(d)4.b.
7. Replace any items damaged during installation, as determined by the Representative at no additional cost to the Department.
8. Repair all turf grass areas damaged during installation of end anchor terminals, as specified in Section 804, at no additional cost to the Department.
9. Furnish and install delineation devices with reflective sheeting on end anchor terminals according to the manufacturer's requirements. Provide a minimum of 120 square inches of reflective sheeting on the end anchor terminal. Verify that the reflective sheeting of delineation devices is visible to approaching traffic for both directions.

IV. MEASUREMENT AND PAYMENT - Each

Includes all materials, labor, tools, equipment, test equipment, required borings, field and laboratory testing, engineering design costs, and Foundation Report necessary to design and construct a complete and functional End Anchor Terminal.

N1C - d01 ADVANCE NOTICE TO CHANGE IN TRAFFIC CONTROL

Addendum:

Associated Item(s):

Header:
ADVANCE NOTICE TO CHANGE IN TRAFFIC CONTROL

Provision Body:
Notify the Engineer at least 5 working days in advance of the start of any operation which will affect the flow of traffic and provide the Engineer with details of the work to be done.

N1B - PROJECT FIELD OFFICE

Addendum:

Associated Item(s):

Header:
PROJECT FIELD OFFICE

Provision Body:
Furnish, erect and maintain sufficient PROJECT FIELD OFFICE signs (C3-1) with directional arrow 90 degree turn marker (M6-1) signs leading from the nearest state highway to the field office, as directed.

N1A - SPOTTED LANTERNFLY QUARANTINE AREA

Addendum:

Associated Item(s):

Header:
SPOTTED LANTERNFLY QUARANTINE AREA

Provision Body:

This is the mandatory compliance with the Pennsylvania Department of Agriculture's best management practices for the designated quarantine area established for the invasive Spotted Lanternfly.

In 2014, the Pennsylvania Department of Agriculture confirmed the presence of the Spotted Lanternfly (Lycorma delicatula) in Berks County, the first detection of this non-native species in the United States. Within Pennsylvania and Nationwide, the Spotted Lanternfly has the potential to have a catastrophic impact on the timber, plant nursery, and fruit orchard industries. Therefore, the Pennsylvania Department of Agriculture issued a quarantine order to stop the movement of this invasive species to new areas and to slow its spread within the quarantine area. To avoid the movement of the invasive Spotted Lanternfly, the contractor must comply with the following best management practices for any project located within the quarantine area.

1. The intentional movement of the Spotted Lanternfly is expressly prohibited and is a serious offense. Look for the insect before leaving an area, especially after walking or parking near a tree line. This insect is not a strong flier and may try to hitch hike on your vehicle or other outdoor items.
2. Inspect all vehicles/construction equipment leaving the project area for Spotted Lanternfly adults, nymphs, and egg masses.
3. The quarantine order restricts the movement of certain articles to a new area. The following materials are not to be removed from the quarantine area:

    - Brush, debris, bark, or yard waste
    - Construction waste materials
    - Logs, stumps, or any tree parts
    - Nursery stock
    - Firewood crated materials

4. It is recommended that all woody materials cut on the project site be ground up on-site. If possible, chip all woody debris on-site to no larger than 1-inch pieces in each of two dimensions. Chipped materials cannot be transported outside of the quarantine area.
5. Unchipped woody materials should not be left on the project site where they could be picked up by the general population and transported for use as firewood.
6. Incorporate Spotted Lanternfly inspections into existing activities such as daily inspections or safety checks. Document the inspection was performed and the control measures taken if live Spotted Lanternfly were found (destruction of Spotted Lanternfly, etc.). Documentation must identify the person conducting the inspection and demonstrate an inspection was performed to prevent spread of the pest.

The quarantine area for the Spotted Lanternfly is constantly being expanded and updated as further detections of the species are confirmed. Consequently, it is imperative that contractors verify the most current quarantine area with respect to the project site prior to, and during project construction. The most current quarantine area information can be found at http://www.agriculture.pa.gov/Plants_Land_Water/PlantIndustry/Entomology/spotted_lanternfly/quarantine/Pages/default.aspx, or by contacting the Pennsylvania Department of Agriculture at 717-787-4737 . Should the quarantine area be expanded to include the current project site, the contractor is required to comply with the above best management practices.

Performance Bonds

Surety Company:	Arch Insurance Company	**Status:**	Accepted
Bonding Agency:	Mahorsky Group, Inc.	**Bond Number:**	SU 1167539
Producer:	Scott C Mahorsky/PennDOT BP-006718	**Bond Amount:**	$9,278,657.87
Co-Insurer:	No	**NAIC:**	11150

KNOW ALL BY THESE PRESENTS, That we, *Grannas Bros. Stone & Asphalt Co., Inc.* of *P.O. Box 488 , Hollidaysburg, PA 16648* as PRINCIPAL,and Arch Insurance Company a corporation,as SURETY, are held and firmly bound unto the *Commonwealth of Pennsylvania* in the full and just sum of *$9,278,657.87*, lawful moneyof the United States of America, to be paid to the said Commonwealth of Pennsylvania, or it assigns, to which payment well and truly tobe made, we bind ourselves, our heirs, executors, administrators, and successors, jointly and severally, firmly by these presents.

Sealed with our respective seals and dated this 18 day of August A.D. 2020.

Whereas, the above bounden PRINCIPAL has undertaken to contract with the said Commonwealth of Pennsylvania, by and through the Secretary of Transportation covering the workidentified below for approximately the sum of the bond amount defined above.

This project is for the pavement preservation of approximately 31.5 miles of SR 0220, I-99, Ramps 8007,8009,8011 & 8013 in Bedford and Blair Counties. Work includes 1” thin overlay wearing course, concrete pavement patching, rumble strips, guide rail and drainage upgrades, cable medina barrier, pavement markings and other miscellaneous construction, as indicated on the approved drawings included in the bid package for STATE ROUTE 0099, SECTION 012, in BEDFORD COUNTY, BEDFORD, EAST ST. CLAIR, KING, KIMMEL & GREENFIELD TOWNSHIPS at the locations indicated on the plans in the bid package.

and

WHEREAS, it was one of the conditions of the award of the Secretary of Transportation, acting for and on behalf ofthe Commonwealth of Pennsylvania, pursuant to which said contract was undertaken by the PRINCIPAL that these presentsshould be executed, to become binding upon the date the said contract is approved for the office of Budget, by the Comptroller.

NOW, THEREFORE, The conditions of this obligation is such that if the above bounden PRINCIPAL, as Contractor, shall in allrespects comply with and faithfully perform the terms and conditions of said contract, and its obligationsthereunder, including the plans, specifications, and conditions therein referred to and made a partthereof, and such alterations as may be made in said specifications as therein provided for, and shall well and truly, and in a manner satisfactory to the Commonwealth of Pennsylvania, complete the work contracted for, and shall save harmless the Commonwealth of Pennsylvania fromany expense incurred through the failure of said contractor to complete the work as specified, or for any damages growing outof the carelessness and/or negligence of said contractor or its servants.

And shall save and keep harmless the said Commonwealth of Pennsylvania against and from all losses to it from any causewhatsoever, including patent, trademark, and copyright infringements, in the manner of constructing said section of roadway;then this obligation to be void or otherwise to be and remain in full force and virtue.

It is further provided that any alteration which may be made in the terms of the contract or in the work to be done under itor the giving by the Commonwealth of any extension of time for the performance of the contract or any other forbearance on thepart of either the Commonwealth or the PRINCIPAL to the other shall not in any way release the PRINCIPAL and the SURETY orSURETIES or either or any of them, their heirs, executors, administrators, successors or assigns, from their liability hereunder,notice to the SURETY or SURETIES of any such alteration, extension, or forbearance being hereby waived.

IN WITNESS WHEREOF, the said PRINCIPAL and SURETY have duly executed this Bond under seal the day and year firstabove written.

Attorney-in-Fact Certification

*The undersigned attorney-in-fact by executing this Performance Bond certifies that they are licensed with the company namedas surety for this bond and that to the best of their knowledge the said surety islicensed with the Pennsylvania Insurance Department.

Bond Workflow Status

Status	Name	Disposition	Date/Time
Draft	Scott Grannas/PennDOT BP-005263	Submit	08/17/2020 10:42:53 AM
Producer Review	Scott C Mahorsky/PennDOT BP-006718	Sign	08/18/2020 09:40:54 AM
Contractor Review	Scott Grannas/PennDOT BP-005263	Sign	08/24/2020 10:49:31 AM
BOD CMD Review	Roland L Rode/PennDOT	Accept	08/24/2020 11:34:37 AM

Payment Bonds

Surety Company:	Arch Insurance Company	**Status:**	Accepted
Bonding Agency:	Mahorsky Group, Inc.	**Bond Number:**	SU 1167539
Producer:	Scott C Mahorsky/PennDOT BP-006718	**Bond Amount:**	$9,278,657.87
Co-Insurer:	No	**NAIC:**	11150

KNOW ALL BY THESE PRESENTS, That we, *Grannas Bros. Stone & Asphalt Co., Inc.* of *P.O. Box 488 , Hollidaysburg, PA 16648* as PRINCIPAL,and Arch Insurance Company a corporation,as SURETY, are held and firmly bound unto the *Commonwealth of Pennsylvania* in the full and just sum of *$9,278,657.87*, lawful moneyof the United States of America, to be paid to the said Commonwealth of Pennsylvania, or it assigns, to which payment well and truly tobe made, we bind ourselves, our heirs, executors, administrators, and successors, jointly and severally, firmly by these presents.

Sealed with our respective seals and dated this 18 day of August A.D. 2020.

Whereas, the above bounden PRINCIPAL has undertaken to contract with the said Commonwealth of Pennsylvania, by and through the Secretary of Transportation covering the workidentified below for approximately the sum of the bond amount defined above.

This project is for the pavement preservation of approximately 31.5 miles of SR 0220, I-99, Ramps 8007,8009,8011 & 8013 in Bedford and Blair Counties. Work includes 1” thin overlay wearing course, concrete pavement patching, rumble strips, guide rail and drainage upgrades, cable medina barrier, pavement markings and other miscellaneous construction, as indicated on the approved drawings included in the bid package for STATE ROUTE 0099, SECTION 012, in BEDFORD COUNTY, BEDFORD, EAST ST. CLAIR, KING, KIMMEL & GREENFIELD TOWNSHIPS at the locations indicated on the plans in the bid package.

and

WHEREAS, it was one of the conditions of the award of the Secretary of Transportation, acting for and on behalf ofthe Commonwealth of Pennsylvania, pursuant to which said contract was undertaken by the PRINCIPAL that these presentsshould be executed, to become binding upon the date the said contract is approved for the office of Budget, by the Comptroller.

NOW, THEREFORE, The conditions of this obligation is such that if the above bounden PRINCIPAL shall and willpromptly or cause to be paid in full all sums of money which may be due by contractor or corporation, for all materials furnishedor labor supplied or performed in the prosecution of the work, whether or not the said material or labor entered into and becamecomponent parts of the work or improvement contemplated, and for rental of the equipment used and services rendered by public utilitiesin, or in connection with, the prosecution of such work, then this obligation to be void, otherwise to remain in full force andeffect.

The PRINCIPAL and SURETY hereby, jointly and severally, agree with the obligee herein that any individual, firm,partnership, association or corporation, which has performed labor or furnished material in the prosecution of the work as provided,and any public utility which has rendered services in, or in connection with, the prosecution of such work, and which has not been paidin full therefor, may sue assumpsit on this Payment Bond in its own name and may prosecute the same to final judgementfor such sum or sums as may be justly due to it, and have execution thereon. Provided, however, that theCommonwealth shall not be liable for the payment of any costs or expenses of such suit.

Recovery by any individual, firm, partnership, association or corporation hereunder shall be subject to theprovisions of the "Public Works Contractors' Bond Law of 1967", Act No. 385, approved December 20, 1967, P.L. 869, which Act shallbe incorporated herein and made a part hereof, as fully and completely as though its provisions were fully and at length herein recited.

It is further provided that any alteration which may be made in the terms of the contract or in the work to be done or materialsto be furnished or labor to be supplied or performed under it or the giving by the Commonwealth of any extension of time for theperformance of the contract or any other forbearance on the part of either the Commonwealth or the Principal to the other shallnot in any way release the PRINCIPAL and the SURETY or SURETIES or either or any of them, their heirs, executors, administrators,successors or assigns, from their liability hereunder, notice to the SURETY or SURETIES of any such alteration, extension, orforbearance being hereby waived.

IN WITNESS WHEREOF, the said PRINCIPAL and SURETY have duly executed this Bond under seal the day and year firstabove written.

Attorney-in-Fact Certification

*The undersigned attorney-in-fact by executing this Payment Bond certifies that they are licensed with the company namedas surety for this bond and that to the best of their knowledge the said surety islicensed with the Pennsylvania Insurance Department.

Bond Workflow Status

Status	Name	Disposition	Date/Time
Draft	Scott Grannas/PennDOT BP-005263	Submit	08/17/2020 10:42:32 AM
Producer Review	Scott C Mahorsky/PennDOT BP-006718	Sign	08/18/2020 09:42:07 AM
Contractor Review	Scott Grannas/PennDOT BP-005263	Sign	08/24/2020 10:49:18 AM
BOD CMD Review	Roland L Rode/PennDOT	Accept	08/24/2020 11:34:46 AM

Insurance

Saleme Insurance Services Inc

1409 Eleventh Ave
Altoona, PA 16601

Company: Erie Insurance Exchange
Policy: Q39-0152553
Expiration: 03/01/2021

DBE Commitments

DBE: 10%
Approved: 10.03%

Perform Less Than 50% of Work Items: No
Good Faith Effort Evaluation: No

Status	Business Partner	Business	% of Bid	Submitted	Acknowledged
Approved	Callahan Paving Products, Inc.	Regular Dealer	0.32%	08/11/2020	08/10/2020
Approved	DREAM CITY TRUCKING & FLAGGING LLC	Regular Dealer	0.85%	08/11/2020	08/10/2020
Approved	Kee-Ta Quay Construction, LLC	Subcontractor	1.06%	08/11/2020	08/10/2020
Approved	Rae-Lyn Enterprises, Inc.	Subcontractor	0.84%	08/11/2020	08/10/2020
Approved	Rae-Lyn Enterprises, Inc.	Regular Dealer	0.76%	08/11/2020	08/11/2020
Approved	The "U" Company LLC	Subcontractor	0.33%	08/11/2020	08/11/2020
Approved	VideoTek Construction, LLC	Regular Dealer	5.87%	08/11/2020	08/10/2020

Callahan Paving Products, Inc.

Prime

Contact: scott grannas
Phone: 814-695-5021
DBE: 10%

Status: Approved
Revision Number:

DBE

Business Partner: Callahan Paving Products, Inc.
Type: DBE
Contact: Brian Eberhart
Phone: 215-443-5040
DBE JVT%:
Certification: 10452

Agreement Amount: $29,482.80
% of Bid: 0.32
Mobilization: $0.00
Starting: 04/01/2021
Completion: 11/01/2021
Business Type: Regular Dealer

Items

None

Partial Items

Item	Description	Unit of Measure	Quantity
0516-2008	NEW PAVEMENT JOINT	LF	180.000
0516-2008	NEW PAVEMENT JOINT	LF	180.000
0516-2007	PATCHING JOINT	LF	7,686.000
0516-2007	PATCHING JOINT	LF	7,686.000
0516-0210	CONCRETE PAVEMENT PATCHING, PERPENDICULAR JOINTS, TYPE C, 10" DEPTH	SY	206.000
0516-0110	CONCRETE PAVEMENT PATCHING, PERPENDICULAR JOINTS, TYPE B, 10" DEPTH	SY	81.000
0516-0010	CONCRETE PAVEMENT PATCHING, PERPENDICULAR JOINTS, TYPE A, 10" DEPTH	SY	2,662.000

Comment

None

Workflow

Status	Name	Disposition	Date/Time
Draft	Scott Grannas/PennDOT BP-005263	Submit	08/10/2020 01:34:12 PM
Awaiting Acknowledgement	Brian Eberhart/PennDOT BP-000822	Acknowledge	08/10/2020 05:02:06 PM
Acknowledged	Scott Grannas/PennDOT BP-005263	Submit	08/11/2020 01:24:53 PM

PennDOT Review	Trista A Maurer/PennDOT	Approve	08/11/2020 02:00:38 PM

DREAM CITY TRUCKING & FLAGGING LLC

Prime

Contact: scott grannas
Phone: 814-695-5021
DBE: 10%

Status: Approved
Revision Number:

DBE

Business Partner: DREAM CITY TRUCKING & FLAGGING LLC
Type: DBE
Contact: Dionelle Owen
Phone: 678-360-3404
DBE JVT%:
Certification: 14866

Agreement Amount: $78,394.20
% of Bid: 0.85
Mobilization: $0.00
Starting: 04/01/2021
Completion: 11/01/2021
Business Type: Regular Dealer

Items

None

Partial Items

Item	Description	Unit of Measure	Quantity
0620-1600	TYPE 31-S GUIDE RAIL	LF	4,275.000
0619-0459	PERMANENT IMPACT ATTENUATING DEVICE, TYPE II, TEST LEVEL 3, TANGENT (MASH)	EACH	61.000
0619-0459	PERMANENT IMPACT ATTENUATING DEVICE, TYPE II, TEST LEVEL 3, TANGENT (MASH)	EACH	61.000

Comment

None

Workflow

Status	Name	Disposition	Date/Time
Draft	Scott Grannas/PennDOT BP-005263	Submit	08/10/2020 04:24:14 PM
Awaiting Acknowledgement	DONIELLE R OWEN/ PennDOT BP-011603	Acknowledge	08/10/2020 04:59:27 PM
Acknowledged	Scott Grannas/PennDOT BP-005263	Submit	08/11/2020 01:24:53 PM
PennDOT Review	Trista A Maurer/PennDOT	Approve	08/11/2020 02:04:45 PM

Kee-Ta Quay Construction, LLC

Prime

Contact: scott grannas
Phone: 814-695-5021
DBE: 10%

Status: Approved
Revision Number:

DBE

Business Partner: Kee-Ta Quay Construction, LLC
Type: DBE
Contact: Jack Clark
Phone: 717-987-3518
DBE JVT%:
Certification: 11574

Agreement Amount: $98,380.00
% of Bid: 1.06
Mobilization: $5,600.00
Starting: 04/01/2021
Completion: 11/01/2021
Business Type: Subcontractor

Items

Item	Description	Unit of Measure	Quantity
0618-0026	CONCRETE COLLAR FOR 30" PIPE EXTENSION	EACH	1.000
0605-2740	TYPE S CONCRETE TOP UNIT AND GRATE	SET	7.000
0605-2730	TYPE M CONCRETE TOP UNIT AND GRATE	SET	1.000
0605-2700	INLET GRATE	EACH	11.000
0605-2401	MANHOLE FRAME AND COVER	SET	1.000

Partial Items

Item	Description	Unit of Measure	Quantity
0607-0013	REBUILT INLET BOX	VF	48.000
0605-2850	STANDARD INLET BOX, HEIGHT < /= 10'	EACH	1.000
0605-2642	TYPE D ENDWALL FOR 24" PIPE	EACH	1.000

Comment

None

Workflow

Status	Name	Disposition	Date/Time
Draft	Scott Grannas/PennDOT BP-005263	Submit	08/10/2020 01:28:27 PM
Awaiting Acknowledgement	Cree Fix/PennDOT BP-000405	Acknowledge	08/10/2020 04:43:40 PM
Acknowledged	Scott Grannas/PennDOT BP-005263	Submit	08/11/2020 01:24:53 PM

PennDOT Review	Trista A Maurer/PennDOT	Approve	08/11/2020 02:06:18 PM

Rae-Lyn Enterprises, Inc.

Prime

Contact: scott grannas
Phone: 814-695-5021
DBE: 10%

Status: Approved
Revision Number:

DBE

Business Partner: Rae-Lyn Enterprises, Inc.
Type: DBE
Contact: Jim Carrol
Phone: 814-201-2235
DBE JVT%:
Certification: 10931

Agreement Amount: $77,970.00
% of Bid: 0.84
Mobilization: $0.00
Starting: 04/01/2021
Completion: 11/01/2021
Business Type: Subcontractor

Items

None

Partial Items

Item	Description	Unit of Measure	Quantity
8915-0001	CONSTRUCTION OF MAINTENANCE AND PROTECTION OF TRAFFIC	LS	1.000

Comment

None

Workflow

Status	Name	Disposition	Date/Time
Draft	Scott Grannas/PennDOT BP-005263	Submit	08/10/2020 01:15:48 PM
Awaiting Acknowledgement	KEELY RIGGLE/PennDOT BP-000754	Acknowledge	08/10/2020 02:30:18 PM
Acknowledged	Scott Grannas/PennDOT BP-005263	Submit	08/11/2020 01:24:53 PM
PennDOT Review	Trista A Maurer/PennDOT	Approve	08/11/2020 02:09:47 PM

Rae-Lyn Enterprises, Inc.

Prime

Contact: scott grannas
Phone: 814-695-5021
DBE: 10%

Status: Approved
Revision Number:

DBE

Business Partner: Rae-Lyn Enterprises, Inc.
Type: DBE
Contact: Marshall
Phone: 724-478-3700
DBE JVT%:
Certification: 10931

Agreement Amount: $70,115.19
% of Bid: 0.76
Mobilization: $0.00
Starting: 04/01/2021
Completion: 11/01/2021
Business Type: Regular Dealer

Items

None

Partial Items

Item	Description	Unit of Measure	Quantity
9000-0004	6" RECESSED WHITE REFLECTIVE PAVEMENT MARKING TAPE	LF	42,450.000

Comment

None

Workflow

Status	Name	Disposition	Date/Time
Draft	Scott Grannas/PennDOT BP-005263	Submit	08/10/2020 04:24:29 PM
Awaiting Acknowledgement	KEELY RIGGLE/PennDOT BP-000754	Acknowledge	08/11/2020 08:12:29 AM
Acknowledged	Scott Grannas/PennDOT BP-005263	Submit	08/11/2020 01:24:54 PM
PennDOT Review	Trista A Maurer/PennDOT	Approve	08/11/2020 02:13:16 PM

The "U" Company LLC

Prime

Contact: scott grannas
Phone: 814-695-5021
DBE: 10%

Status: Approved
Revision Number:

DBE

Business Partner: The "U" Company LLC
Type: DBE
Contact: Greg Jr
Phone: 724-329-5627
DBE JVT%:
Certification: 10841

Agreement Amount: $30,215.00
% of Bid: 0.33
Mobilization: $0.00
Starting: 09/15/2021
Completion: 10/15/2021
Business Type: Subcontractor

Items

Item	Description	Unit of Measure	Quantity
0804-0006	SEEDING AND SOIL SUPPLEMENTS - FORMULA L, INCLUDING MULCH	LB	3,580.000

Partial Items

None

Comment

None

Workflow

Status	Name	Disposition	Date/Time
Draft	Scott Grannas/PennDOT BP-005263	Submit	08/10/2020 01:10:11 PM
Awaiting Acknowledgement	Michelle R Uphold/PennDOT BP-003096	Acknowledge	08/11/2020 09:27:49 AM
Acknowledged	Scott Grannas/PennDOT BP-005263	Submit	08/11/2020 01:24:53 PM
PennDOT Review	Trista A Maurer/PennDOT	Approve	08/11/2020 02:16:16 PM

VideoTek Construction, LLC

Prime

Contact: scott grannas
Phone: 814-695-5021
DBE: 10%

Status: Approved
Revision Number:

DBE

Business Partner: VideoTek Construction, LLC
Type: DBE
Contact: Pete Gonzalez
Phone: 724-494-2857
DBE JVT%:
Certification: 13090

Agreement Amount: $544,587.75
% of Bid: 5.87
Mobilization: $0.00
Starting: 04/01/2021
Completion: 10/15/2021
Business Type: Regular Dealer

Items

None

Partial Items

Item	Description	Unit of Measure	Quantity
0413-0258	SUPERPAVE ASPHALT MIXTURE DESIGN, WEARING COURSE, PG 64S-22, 0.3 TO < 3 MILLION ESALS, 9.5 MM MIX, SRL-L	TON	4,527.000
0412-0113	SUPERPAVE ASPHALT MIXTURE DESIGN, THIN ASPHALT OVERLAY WEARING COURSE, PG 64E-22, 6.3MM MIX, 1" DEPTH, SRL-G	SY	219,742.000
0412-0112	SUPERPAVE ASPHALT MIXTURE DESIGN, THIN ASPHALT OVERLAY WEARING COURSE, PG 64E-22, 6.3MM MIX, 1" DEPTH, SRL-H	SY	598,778.000

Comment

None

Workflow

Status	Name	Disposition	Date/Time
Draft	Scott Grannas/PennDOT BP-005263	Submit	08/10/2020 04:23:58 PM
Awaiting Acknowledgement	victor h diaz/PennDOT BP-006054	Acknowledge	08/10/2020 05:58:19 PM
Acknowledged	Scott Grannas/PennDOT BP-005263	Submit	08/11/2020 01:24:53 PM
PennDOT Review	Trista A Maurer/PennDOT	Approve	08/11/2020 02:18:47 PM

Plans

Plans

Roadway Plan

Supplemental Plans

None

Addendum

Attachments

Project-Specific Checklist Items	Addendum
Project Specific - ASR Mitigation Flowchart	
Project Specific - Draft Special Provision for Sequential Flashing Light	3
Project Specific - Form FP-001 (Certification of Origin of Clean Fill Act)	
Project Specific - Item Description Changes	
Project Specific - Public Works Employment Verification Form	
Project Specific - Record of Existing Road Types	
Reviews	
None	
Contract Award Items	
Disclosure of Lobbying Activities	
F.A.R. Req Contract Provisions Federal-Aid Constr. Contracts	
Federal Wage Rate - Dated: 07-31-2020	2
Local Agreements and Coordination	
None	
Environmental Clearances	
ECMTS Report (Matrix)	
ECMTS Signature Page	
Permits	
Environmental Due Diligence (EDD) - Contractor	
Environmental Due Diligence (EDD) - PennDOT	
Right of Way	
None	
Survey	
None	
Utilities Clearance	
None	
Utility Engineering	
None	
Construction Items	
Pre-Bid Construction Schedule - Calendar	
Pre-Bid Construction Schedule - CPM	
Steel Escalation Option Form	
Structures and Geotechnical	
None	
Railroad Coordination	

None

Traffic

None

Construction Coordination

None

Maintenance Items

None

Estimates

None

Comments: