Wisconsin Department of Transportation

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August 7, 2026

NOTICE TO ALL CONTRACTORS:

Proposal #11: 1227-08-73, WISC 2026440
Manitowoc – Green Bay
STH 172 – Atkinson Drive
IH 43
Brown County

Letting of August 11, 2026

This is Addendum No. 03, which provides for the following:

Special Provisions:

Revised Special Provisions	
Article No.	Description
24	HMA Pavement 4 SMA 58-28 V, Item 460.8624; HMA Pavement Test Strip Volumetrics, Item 460.0115.S; HMA Pavement Test Strip Density, Item 460.0120.S

Added Special Provisions	
Article No.	Description
61	Cured in Place Pipe Liner for Steel Plate Pipe Arch (approximate dimensions 74”x51”), Item SPV.0090.05

Deleted Special Provisions	
Article No.	Description
59	Cured in Place Pipe Liner, 60-Inch, Item SPV.0090.04

Schedule of Items:

Added Bid Item Quantities					
Bid Item	Item Description	Unit	Proposal Total Prior to Addendum	Quantity Added	Proposal Total After Addendum
SPV.0090.05	Cured in Place Pipe Liner for Steel Plate Pipe Arch (approximate dimensions 74”x51”)	LF	0	275	275

Deleted Bid Item Quantities					
Bid Item	Item Description	Unit	Proposal Total Prior to Addendum	Proposal Quantity Change (-)	Proposal Total After Addendum
SPV.0090.04	Cured in Place Pipe Liner, 60-Inch	LF	275	-275	0

Plan Sheets:

Revised Plan Sheets	
Plan Sheet	Plan Sheet Title (brief description of changes to sheet)
281	Miscellaneous Quantities (switched bid item for culvert pipe liner)

The responsibility for notifying potential subcontractors and suppliers of these changes remains with the prime contractor.

Sincerely,

Mike Coleman

Proposal Development Specialist
Proposal Management Section

ADDENDUM NO. 03

PROJECT ID 1227-08-73

August 7, 2026

Special Provisions

24. HMA Pavement 4 SMA 58-28 V, Item 460.8624; HMA Pavement Test Strip Volumetrics, Item 460.0115.S; HMA Pavement Test Strip Density, Item 460.0120.S.

A Description

This special provision describes the Stone Matrix Asphalt (SMA) density and volumetric testing tolerances required for an SMA Test Strip. A density test strip is required for each pavement layer and thickness placed over a specific, uniform underlying material, unless specified otherwise in the plans. Each mix design requires a separate test strip. Density and volumetrics testing will be conducted on the same test strip whenever possible.

Conform to standard spec 450 and 460 except as modified in this provision.

B (Vacant)

C Construction

Add the following to standard spec 450.3.1.3 to require transfer vehicle for SMA:

(2) Use a Material Transfer Vehicle when constructing SMA pavement.

Add the following to standard spec 450.3.1.5 to prohibit rubber-tire roller on SMA:

(3) Do not use a rubber-tired roller for compaction of SMA pavement.

C.1 Test Strip

Submit the test strip start time and date to the department in writing at least 5 calendar days in advance of construction of the test strip. If the contractor fails to begin paving within 2 hours of the submitted start time, the test strip is delayed, and the department will assess the contractor $2,000 for each instance according to Section E of this provision. Alterations to the start time and date must be submitted to the department in writing a minimum of 24 hours prior to the start time. The contractor is not liable for changes in start time related to adverse weather days as defined by standard spec 101.3 or equipment breakdown verified by the department.

On the first day of production for a test strip, produce approximately 500 tons of SMA. (Note: adjust tonnage to accommodate natural break points in the project.) Locate test strips in a section of the roadway to allow a representative rolling pattern (i.e. not a ramp or shoulder, etc.).

C.1.1 Sampling and Testing Intervals

C.1.1.1 Volumetrics

Laboratory testing will be conducted from a split sample yielding three components, with portions designated for QC (quality control), QV (quality verification), and retained.

During production for the test strip, obtain sufficient SMA mixture for four-part split samples from trucks prior to departure from the plant. Collect two split samples during production of the test strip material. Perform sampling from the truck box and four-part splitting of SMA according to WTM R47. These two samples will be randomly selected by the engineer from each half of the test strip tonnage (T), excluding the first 50 tons:

TABLE 1: SMA Volumetric Test Strip Sampling Frequency

Sample Number	Production Interval (Tons)
1	50 to T/2
2	T/2 to T

C.1.1.2 Density

Required field tests include contractor QC and department QV nuclear density gauge tests and pavement coring at ten individual locations (five in each half of the test strip length) according to WTM T355 Appendix X1. Both QV and QC teams must have two nuclear density gauges present for correlation at the time the test strip is constructed. QC and QV teams may correlate additional gauges at the locations detailed in Appendix X1, as only gauges used during the test strip correlation phase will be allowed.

C.1.2 Field Tests

A gauge comparison according to WTM T355 must be completed before the day of test strip construction. Perform daily standardization of gauges on reference blocks and a reference site according to WTM T355. Perform a standard count for each gauge on the material placed for the test strip, prior to any additional data collection. Use nuclear gauge readings and pavement cores to determine nuclear gauge correlation according to WTM T355 Appendix X1. Provide the two to three readings for the five locations across the mat for each of two zones to the engineer. The engineer will analyze the readings of each gauge relative to the densities of the cores taken at each location. The engineer will determine the average difference between the nuclear gauge density readings and the measured core densities to be used as a constant offset value. This offset will be used to adjust raw density readings of the specific gauge and shall appear on the density data sheet along with gauge and project identification. An offset is specific to the mix and layer; therefore, a separate value shall be determined for each layer of each mix placed over a differing underlying material for the contract. This constitutes correlation of that individual gauge for the given layer. Two gauges per team are not required to be onsite daily after completion of the test strip. Any data collected without a correlated gauge will not be accepted.

Core the pavement from the footprint of the density tests and fill core holes according to WTM R67. Coring and filling of pavement core holes must be approved by the engineer. The QV team is responsible for the labeling and safe transport of the cores from the field to the QC laboratory. Conduct testing of cores while being witnessed by department personnel. Dry the cores following testing. The department will take possession of cores following laboratory testing and will be responsible for any verification testing at the discretion of the engineer.

The target maximum density used to determine core density is determined according to WTM T355 section 10.1.1. In the event mix and density portions of the test strip procedure are separated, or if an additional density test strip is required, the mix portion must be conducted prior to density determination.

Test and report exclusions such as shoulders and appurtenances according to CMM 815. However, all acceptance testing of shoulders and appurtenances will be conducted by the department, and average lot (daily) densities must conform to standard spec Table 460-3. No density incentive or disincentive will be applied to shoulders or appurtenances. However, unacceptable shoulder material will be handled according to standard spec 460.3.3.1 and CMM 815.11.

C.1.3 Laboratory Tests

C.1.3.1 Volumetrics

Obtain random samples according to C1.1.1, WTM R47, and WTM R97.

Both QC and QV will test both split samples for Gmm, Gmb, and AC. Air voids and VMA are then calculated using these test results. QC samples are also tested for aggregate gradation according to WTM T30. Theoretical maximum specific gravities of each mixture sample will be obtained according to WTM T209. Determine bulk specific gravities of both gyratory compacted samples and field cores according to WTM T331. Use the bulk specific gravity values determined from field cores to calculate a correction factor (i.e.: offset) for each QC and QV nuclear density gauge. The correction factor will be used throughout the

remainder of the layer. Asphalt content for each mixture sample will be obtained according to WTM T308, AASHTO T164 Method A or B, or WTM D8159.

C.2 Acceptance

The test strip shall remain in place and become part of the completed pavement when acceptably produced, acceptably compacted, and meets finish and smoothness requirements.

C.2.1 Volumetrics

Produce mix conforming Table 2 on individual QC and QV test results (tolerances based on most recent JMF):

TABLE 2: SMA Test Strip Volumetric Acceptance Requirements

Item	JMF Limits
Asphalt Content (%)[1]	- 0.5
VMA (%)[2]	- 1.0
Air Voids (%)	According to the SMA Test Strip Approval Criteria Below.

[1] Asphalt content more than 0.5% below the JMF will be referee tested by BTS using automated extraction according to WTM D8159.

[2] VMA limits based on minimum requirement for mix design nominal maximum aggregate size in table 460-1.

If either QV air void sample is outside of the limits for 100% pay (i.e., $3.2 \leq Va \leq 5.8$), send both QV-retained split samples to BTS for dispute resolution testing. The engineer in consultation with BTS will jointly determine whether main production may proceed based on the results of the QV tests while dispute testing is performed. The results from the BTS dispute resolution testing will determine material conformance and payment for the test strip according to the SMA Prorated Pay Factors Table in Section E. If QV and QC test results exceed testing tolerances (0.015 for Gmm or Gmb), both retained split samples will be tested by BTS. In this case, conduct additional investigation to identify the source of the difference between QV and QC data and BTS referee test data will be used to determine material conformance and pay.

C.2.2 Density

Compact all layers of test strip SMA mixture according to Table 460-3.

Nuclear density gauges are acceptable for use on the project only if correlation is completed for that gauge during the time of the test strip and the department issues documentation of acceptance stating the correlation offset value specific to the gauge and mix design. The offset is not to be entered into any nuclear density gauge as it will be applied by the department-furnished Field Density Worksheet. The offset applies to the mainline pavement and integrally paved shoulders.

C.2.3 Test Strip Approval and Material Conformance

Complete all applicable laboratory and field testing associated with a test strip prior to any additional mainline placement of the mix. Submit all test reports to the department upon completion and approved before paving resumes. The department will notify the contractor within 24 hours of the start of test strip construction regarding approval to proceed with paving unless an alternate time frame is agreed upon in writing with the department. The 24-hour approval time includes only working days as defined in standard spec 101.3.

The department will evaluate mixture air voids, test strip density, and nuclear gauge to core correlation in determining test strip approval and material conformance according to Table 3:

Table 3: SMA Test Strip Approval Criteria

Approval / Material Conformance *[1]*	QV / BTS Volumetrics	Average Density of All Cores	Outcome of Test Strip for Contractor
Approved / Material Conforming	$3.2 \leq Va \leq 5.8$ AC ≥ JMF AC - 0.3% VMA ≥ Min. VMA - 0.5%	$\geq$ 93.0 %	Proceed with production

Approval / Material Conformance [1]	QV / BTS Volumetrics	Average Density of All Cores	Outcome of Test Strip for Contractor
Test Strip Approved / Material Nonconforming	2.8 ≤ Va ≤ 3.2 or 5.8 < Va < 6.2 JMF AC - 0.5% ≤ AC < JMF AC - 0.3% Min. VMA - 1.0% ≤ VMA < Min. VMA - 0.5%	≥ 91.0 %	Propose solution and proceed with production. Payment for material will be based on BTS referee tests.
Test Strip Not Approved / Material Nonconforming	2.5 ≤ Va < 2.8 or 6.2 < Va < 6.5	< 91.0 %	Stop production, submit cause and solution, make additional 500-ton test strip. Payment for material will be based on BTS referee tests.
Test Strip and Material are Unacceptable [2]	Va < 2.5 or Va > 6.5 AC < JMF AC - 0.5% VMA < Min. VMA - 1.0%	< 90.0 %	Stop production, submit cause and solution, make additional 500-ton test strip, and complete a new nuclear density gauge correlation.

[1] The overall result of each test strip will coincide with the more restrictive result from volumetrics or density.

[2] Unacceptable material will be removed and replaced at no additional cost to the department. Alternatively, the engineer may allow the material to remain in place with a 50 percent payment factor. Material allowed to remain in place requires another test strip prior to additional paving.

An acceptable core to nuclear density gauge correlation must be completed by both the contractor and department according to WTM T355 Appendix X1 as part of the test strip.

A maximum of two test strips will be allowed to remain in place per layer per contract. If material is removed, replace the previous one with a new test strip at no additional cost to the department. If the contractor changes the mix design for a given mix type during a contract, no additional compensation will be paid by the department for the required additional test strip, and the department will assess the contractor $2,000 for each additional test strip according to Section E of this I provision.

D Measurement

Add the following to standard spec 460.4:

(2) The department will measure HMA Pavement Test Strip Volumetrics and HMA Pavement Test Strip Density as each unit of work, acceptably completed as passing the required air void, VMA, asphalt content, and density correlation for a Test Strip. Material quantities will be determined according to standard spec 450.4.

E Payment

Replace standard spec 460.5.1 with the following:

The department will pay for measured quantities at the contract unit price under the following bid items:

ITEM NUMBER	DESCRIPTION	UNIT
460.8624	HMA Pavement 4 SMA 58-28 V	TON
460.0115.S	HMA Pavement Test Strip Volumetrics	EACH
460.0120.S	HMA Pavement Test Strip Density	EACH

Payment for SMA is full compensation for providing SMA mixture designs; for preparing foundation; for volumetric and density testing and aggregate source testing; for asphalt binder from recycled sources; for asphalt binder modification or processes; and addition of fibers, fines, or fillers.

Payment for HMA Pavement Test Strip Volumetrics is full compensation for volumetric sampling, splitting, and testing; and for proper labeling, handling; and retention of split samples.

Payment for HMA Pavement Test Strip Density is full compensation for collecting and measuring of pavement cores, acceptably filling core holes, providing of nuclear gauges and operator(s), and all other work associated with completion of a core-to-gauge correlation, as directed by the engineer.

Regard the test strip as a single/separate lot, with densities and pay adjustments calculated accordingly. Pay adjustments made as part of dispute resolution on test strip material will be limited to the test strip and will not extend to material placed during main production nor will pay adjustments made on main production extend into the test strip.

The department will pay separately for a material transfer vehicle.

Acceptable HMA mixture placed on the project as part of a volumetric or density test strip will be compensated by the appropriate HMA Pavement bid item with any applicable pay adjustments. If a test strip is delayed as defined in C.1, the department will assess the contractor $2,000 for each instance, under the HMA Delayed Test Strip administrative item. If an additional test strip is required because the initial test strip is not approved by the department, or the mix design is changed by the contractor, the department will assess the contractor $2,000 for each additional test strip (i.e., $2,000 for each individual volumetrics or density test strip) under the HMA Additional Test Strip administrative item.

Replace standard spec 460.5.2.1(5) with the following:

(5) The department will reduce pay for nonconforming SMA mixture as specified in C.2.1. The engineer will determine the quantity of material subject to pay reduction based on the testing data and an inspection of the completed pavement. The department will reduce pay according to Table 4:

Table 4: SMA Prorated Pay Factors

Description	Criteria	Pay Factor
High Air Voids Pay Factor	5.8% < Va ≤ 6.5%	100 - (Va - 5.8) * 71.4
Low Air Voids Pay Factor	2.5% ≤ Va < 3.2%	100 - (3.2 - Va) * 71.4
Low VMA Pay Factor	0.5% < VMA below min ≤ 1.0%	100 * [1 - (percent below min. - 0.5)]
Low AC Pay Factor	0.3% < AC below JMF ≤ 0.5%	75

59. Deleted

61. Cured in Place Pipe Liner for Steel Plate Pipe Arch (approximate dimensions 74”x51”), Item SPV.0090.05.

A Description

This special provision describes furnishing and installing cured-in-place pipe (CIPP) liners for culvert or storm sewer.

B Materials

B.1 General

Provide a system that has a minimum of 500,000 feet or 1,000 lined sections of successful installations in the United States and that has been continuously available and in service for a minimum of 5 years.

Provide documentation of testing to confirm a minimum 50-year design life for the liner.

B.2 Flexible Tube

Furnish a flexible tube meeting the requirements of ASTM F1216 or ASTM F1743 consisting of one or more layers of flexible needled felt or an equivalent non-woven material, or a combination of non-woven and woven materials which are compatible with a resin impregnated curing process.

Construct the tube to; withstand installation pressures and curing temperatures, have sufficient strength to bridge missing pipe, stretch to fit irregular pipe sections, invert smoothly around bends, and be compatible with the chosen resin system.

Manufacture tube to a size that, once installed, will tightly fit the internal circumference and length of the original pipe as verified by the contractor. Make allowance for circumferential stretching during inversion.

Fabricate seams in the tube stronger than the unseamed material. Do not utilize overlapped layers of felt in longitudinal seams that cause lumps in the final product. Form spirally formed and sewn joints for length as required. Do not form joints perpendicular to the long axis.

Mark the tube for distance at regular intervals along its entire length, not to exceed 5 feet. Include the manufacturers name or identifying symbol.

Coat the outside layer of the tube (before wetout) with an impermeable, flexible membrane that will contain the resin and facilitate monitoring of resin saturation during the resin impregnation (wetout) procedure.

B.3 Resin

Furnish a corrosion resistant polyester, vinyl ester, or epoxy and catalyst resin system that when properly cured within the tube creates a composite that meets the requirements of ASTM F1216, ASTM D5813, and ASTM F1743, the physical properties in this specification, and those requirements which are to be utilized in the design of the CIPP for the specific project.

Provide a resin and catalyst system that is compatible with the installation process, when cured will comply with the structural and chemical resistance requirements of this specification and can cure in the presence or absence of water. Provide quantities of liquid thermostatting materials per the manufacturer's standards to provide lining thickness required.

The resin may contain fillers for viscosity control, fire retardance, air release, or extension of pot life. Viscosity can be controlled by adding thixotropic agents that do not interfere with visual inspection. The resin can contain pigments, dyes, or colors that do not interfere with visual inspection of the resin- impregnated pipe liner.

B.4 Structural Requirements

A minimum of 14 days prior to delivery of the liner materials, submit design calculations prepared by an engineer licensed in the State of Wisconsin that meet the requirements of the manufacturer and that are designed as per ASTM F1216, Appendix XI. For the fully deteriorated condition assume no bonding to the original pipe wall for the CIPP design. Verify the Long-Term Flexural Modulus used in design by independent testing and provide documentation to the Department. Do not exceed 50% of the short-term values for the Long-Term Modulus in design. CIPP thickness shall not be less than that which is computed from the design requirements in the table below, for resin systems with physical properties shown.

Follow the design equations outlined in ASTM F1216, Appendix X1 for cured-in-place-pipe liners (CIPP) installed by either the pulled-in-place or inversion method. Assume a partially deteriorated pipe condition.

CIPP Design Criteria and Minimum Physical Properties

Design Variable	Value
Culvert Inside Dimensions	74-inch x 51-inch
Soil Density: w	120 pcf
Live Load: Ws	Follow AASHTO LRFD Bridge Design Specifications (AASHTO, 2012) Article 3.6.1.2.6
Minimum Height of Water above Culvert Crown: Hw	1 Foot
Height of Soil above Culvert Crown: H	4 Feet
Culvert Deflection/Ovality:	2% minimum. To be verified by liner designer.
Enhancement Factor: 'K'	7

Modulus of Soil Reaction E's	Follow AASHTO LRFD Bridge Design Specifications (AASHTO, 2012) Article 12.12.3.5.1
Long-term Modulus of Elasticity of CIPP Liner: EL	125,000 psi minimum, 50% of initial value in ASTM F1216. Actual value per the manufacturer can be used. Provide supporting data verified by independent testing.
Factor of Safety: N	2
Flexural Stress	4,500 psi

Base the required structural CIPP wall thickness, at a minimum, on the physical properties listed in this section, under the liner thickness calculations noted above, and in accordance with the Design Equations in Appendix X1 of ASTM F1216.

B.5 Experience and Quality Control

Demonstrate a minimum of five (5) years experience in the installation of cured in place liners by the installation contractor with at least 5 projects in that time totaling over 5,000 feet of installed liner.

Provide an experienced inspector or supervisor, who completed the NASSCO cured-in-place-pipe inspector training class or equivalent and has at least three years experience with cured in place pipe liner installation, to observe the installation of CIPP liner.

Furnish a detailed installation and quality control plan, to be discussed at the preconstruction meeting outlining measures to assure the quality requirements of the contract are met including but not limited to;

- Method of installation including curing methods and resin type.
- Resin/catalyst product names and mixing ratios
- Manufacturer's product literature, and application and installation requirements for materials used in the liner including
    - Maximum, minimum and ideal installation temperatures.
    - Minimum pressure required to hold tube tight to the host conduit and maximum pressure so not damage the tube.
    - Curing times including heat sink effects
    - Maximum pulling forces as applicable
- Manufacturer's product certifications for materials used in the liner including documentation of testing to confirm a minimum 50-year design life for the liner, adherence to applicable ASTM standards and safety data sheets.
- Liner testing compliance.
- Resin to felt ratio by weight requirements.
- Proposed quality controls checks that will be performed and in place by the contractor.
- Product sampling, liner thickness compliance, and notification/resolution of observed liner defects and/or wrinkling observed by the contractor during post lining televising operations.
- Defined responsibilities, as assigned to specific contractor's personnel, for assuring that all the quality assurances are met.

- An outline of specific repair or replacement procedures for potential defects that may occur in the installed CIPP. Provide recommended repair/replacement procedures per the CIPP system manufacturer.
- An odor control plan that will show project specific odors will be minimized at the project site and surrounding area.

B.6 Quality and Inspection Report

Submit a report of the inspection and quality activities performed during and after lining. Complete the report in accordance with NASSCO PACP standards or engineer approved equal.

Provide pre and post lining video inspection files upon completion of the lining. Format files for viewing on a standard PC without additional media software. Perform video work in accordance with NASSCO PACP standards or engineer approved equal.

B.7 Wetout Tube

Provide a wetout tube that has a uniform thickness such that when compressed at installation pressures it will equal or exceed the minimum design CIPP wall thickness, is homogeneous across the entire wall thickness, and contains no intermediate or encapsulated elastomeric layers. Furnish a tube without material in the tube that may cause delamination in the cured CIPP and without dry or unsaturated layers.

B.8 Cured Liner Properties

B.8.1 Color

Provide a tube where the cured interior pipe surface after installation is a light reflective color so that a clear, detailed examination with closed circuit television inspection can be made.

B.8.2 Chemical Resistance

Provide a tube meeting the chemical resistance requirements of ASTM F1216, Appendix X2. Provide samples for testing of tube and resin similar to that proposed for actual construction. It is required that CIPP samples with and without plastic coating meets these chemical testing requirements.

B.8.3 Hydraulic Capacity

Maintain the overall hydraulic profile as large as possible with the CIPP having a minimum of the full flow capacity of the original pipe before rehabilitation. Calculated capacities may be derived using a commonly accepted roughness coefficient for the existing pipe material taking into consideration its age and condition. For this application assume a Manning's value of 0.013 for the existing pipe and 0.010 for the CIPP lined pipe.

B.9 Bypass Plan

Provide a plan of any proposed bypassing or water diversion operations. Size pump or bypass lines of adequate capacity to handle anticipated flows.

C Construction

C.1 General

The department will locate and designate all right of way areas open and accessible for the work and provide rights of access to these points. If a shoulder must be closed to traffic because of the work, institute the actions necessary to do this upon concurrence of the Department for the mutually agreed time period.

Bypass pumping or flow division is the responsibility of the contractor. If dewatering/bypass operations are required from one pipe structure to another pipe structure or from the upstream to downstream end of a culvert and the bypass flow is not transporting sediments (sand, silt, and clay particles) from a tributary work site area, bypass pumping operations will be allowed provided that the department has been made aware of and approves operation. When pumping bypass flows, the discharge location will need to be stable and not produce any erosion from the discharge velocity that would cause release of sediment downstream. If dewatering operations require pumping of water containing sediments (sand, silt, and clay

particles), the discharge will not be allowed to leave the work site or discharge to a storm water conveyance system without sediment removal treatment. Refer to WDNR Technical Standards for Dewatering as applicable. https://dnr.wisconsin.gov/topic/Stormwater/standards/const_standards.html.

C.2 Inspection of Pipeline

Inspect the interior of the pipeline carefully to determine the location of any conditions which may prevent proper installation of CIPP into the pipelines, note these so that these conditions can be corrected. Keep a digital video and suitable log for later reference by the Department.

C.3 Removal of Damaged Culvert

Remove or repair any portion of the existing culvert protruding beyond the interior of the culvert to prevent loss of hydraulic capacity or damage to the installed liner.

C.4 Surface Preparation/Cleaning

Thoroughly clean the interior of the culvert prior the insertion of the liner. High pressure water is the most common method. Utilize hand operated power tools or mechanical equipment where high pressure water does not remove deposits or debris. Properly dispose of all sediment removed from the cleaning process.

C.5 Repair Techniques & Material Installation

Fill any voids in the host pipe that cannot be bridged by a preliner prior to the installation of the CIPP liner. Small gaps and offsets in the pipe culvert joints can be bridged by the CIPP liner. Repair significant gaps and offsets and stop water infiltration that may impact CIPP curing.

C.6 Installation

C.6.1 Preparation of Liner

Designate location where uncured resin in original containers and unimpregnated liner will be vacuum impregnated prior to installation. Allow the engineer to inspect materials and “wet out” procedure.

C.6.2 Resin Impregnation

Impregnate liner tube with resin in a controlled environmental not more than 24 hours before proposed time of installation and store it out of direct sunlight at temperature less than 40 degrees F. Transport resin impregnated liner to site immediately prior to inversion in suitable lightproof container with temperature maintained below 40 degrees F.

Use a sufficient quantity of resin for tube impregnation to fill the volume of air voids in the tube with additional allowances for polymerization shrinkage and the loss of resin through cracks and irregularities in the original pipe wall. Use a vacuum impregnation process and rollers to thoroughly saturate the felt tube. Place the point of vacuum no further than 25 feet from the point of initial resin introduction to ensure thorough resin saturation throughout the length of the felt tube.

Place vacuum points no further than 75 feet from the leading edge of the resin after vacuum in the tube is established. The leading edge of the resin slug shall be as near to perpendicular as possible. Use a roller system to uniformly distribute the resin throughout the tube. When using an alternate method of resin impregnation, the method must produce the same results. Any alternate resin impregnation method must be documented by the manufacturer and approved by the Department. Keep the wetted-out tube in a refrigerated truck until it is inserted.

Do not deliver or install a resin impregnated liner with signs of premature curing.

C.6.3 Liner Insertion

Install cured-in-place pipe in accordance with ASTM F1216 or ASTM F1743.

Position the wetout tube in the pipeline using either inversion or a pull-in method. If pulled into place, utilize a power winch and exercise care so as not to damage the tube as a result of pull-in friction. The tube should be pulled-in or inverted through an existing sewer access structure or via end of pipe and fully extend to the designated termination point.

If required, provide only lubricants that are non-toxic, have no detrimental impacts on the liner, and will not support the growth of bacteria.

Place thermocouples or similar temperature gauges inside the tube at the invert level of each end to monitor the temperature during the cure cycle.

C.7 Curing Liner

After inversion is complete, provide a heat source with suitable monitors to gauge temperature of incoming and outgoing water supply and provide water recirculation equipment capable of delivering hot water throughout section to uniformly raise water temperature above temperature required to effect cure of resin. Cure and cool by utilizing circulated hot and cold water respectively under hydrostatic pressure in accordance with the manufacturer's recommended cure schedule. Monitor temperature to verify that the curing recommendations from the manufacturer are achieved.

Hold liner tight against the host pipe during curing within the minimum and maximum range of pressures provided by the manufacturer.

Initial cure is completed when inspection of exposed portions of liner are hard and sound and remote temperature sensor indicates that temperature is of magnitude to realize an exotherm. Cure for the duration recommended by resin manufacturer. After initial cure is reached raise and maintain the temperature to the post cure temperature called for by the manufacturer. Consider the existing pipe material, the resin system, and ground conditions (temperature, moisture level, thermal conductivity of the soil).

Cool hardened liner to temperature below 100 degrees F before relieving static head in inversion standpipe. Cool down by introduction of cool water into inversion standpipe to replace water being drained from downstream end. Take care in release of static head so that vacuum will not be developed that could damage newly installed liner.

Once cured, the cured-in-place pipe should be continuous and tight fitting. Cut the pipe liner neatly and smoothly at each end of the host pipe to prevent snagging and collection of debris.

C.8 Quality Control and Testing

Prepare cured liner samples and test physical properties in accordance to ASTM F1216 or ASTM F1743, Section 8, using either method proposed. Test for conformance with the manufacturer's final CIPP design values and the CIPP Design Criteria requirement of this special provision including flexural properties listed. CIPP products in which the pipe wall is cured while not in direct contact with the pressurizing fluid (e.g., a removable bladder) must be tested by an alternative method approved by the Department.

Provide documentation of quality checks performed according to this part and as described in the project quality control plan.

C.9 Workmanship and Inspection

Inspect the cured-in-place pipe for a strong and uniform bond between layers. Test that any two layers can not be separated with a probe or point of a knife blade so that the layers separate cleanly or the probe or knife blade moves freely between the layers. Cut new samples from the work if separation of the layers occurs during testing of field samples. Any reoccurrence may cause rejection of the work.

Perform an initial visual inspection with the Department in accordance to ASTM F1743, Section 8.6. Perform final inspection with closed circuit television. Inspect to determine if the CIPP is formed tightly against the pipe sidewall, free of significant visual defects, deflection, holes, leaks and other defects. Inspect for tight seals at the manhole or endwall openings with no annular gaps. Repair areas with evidence of any obstruction, uncured spots, infiltration of groundwater, lifts or incomplete repair by re- lining or spot repair–replacement including street repair with no additional payment. Any excavation or restoration necessary is incidental with no additional payment.

Upon acceptance of the installation work and testing, restore the project area affected by the operations to its original condition.

C.10 Environmental Considerations

CIPP installations involve the use of chemicals and temperatures that could be harmful to aquatic life. As a result, the installation of a CIPP liner requires careful planning and execution to reduce the potential for environmental impacts, especially to the downstream receiving waters. Capture all process water used in the curing. Once cured, thoroughly rinse the liner and properly dispose of the rinse water. Transport the captured waters to a local wastewater treatment facility capable of treating the impacted water. Verify that the local wastewater facilities have the capabilities and capacity to handle the impacted water.

D Measurement

The department will measure Cured in Place Pipe Liner for Steel Plate Pipe Arch (approximate dimensions 74”x51”) in place per linear foot.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.05	Cured in Place Pipe Liner for Steel Plate Pipe Arch (approximate dimensions 74”x51”)	LF

Payment is full compensation for furnishing all labor, tools, equipment, materials, reports and incidentals, including any required bypass pumping or flow diversion, cleaning of the host pipe, gap, void and offset repair in the host pipe, and disposal of curing and cleaning water necessary to complete the contract work according to the above stated specifications.

Schedule of Items
Attached, dated August 7, 2026, are the revised Schedule of Items Page 14.

Plan Sheets
The following 8½ x 11-inch sheets are attached and made part of the plans for this proposal:
Revised: 281

END OF ADDENDUM

CLEANING CULVERT PIPES

CATEGORY	STATION	LOCATION	520.8700 CLEANING CULVERT PIPES EACH
0010	3339+17'NB'	IH 43 NB	1
0010	3387+96'SB'	IH 43 SB	1
0010	3389+57'SB'	IH 43 SB	1
0010	3389+90'NB'	IH 43 NB	1
0010	3396+18'SB'	IH 43 SB	1
0010	3404+52'SB'	IH 43 SB	1
0010	3423+25'SB'	IH 43 SB	1
0010	3449+13'SB'	IH 43 SB	1
0010	3455+11'SB'	IH 43 SB	1
0010	3461+17'SB'	IH 43 SB	1
0010	3467+67'NB'	IH 43 NB	1
0010	3474+17'SB'	IH 43 SB	1
0010	3482+27'SB'	IH 43 SB	1
0010	3503+22'SB'	IH 43 SB	1
0010	3507+08'NB'	IH 43 NB	1
0010	3542+11'SB'	IH 43 SB	1
0010	3603+67'NB'	IH 43 NB	1
0010	3666+51'NB'	IH 43 NB	1
0010	3672+30'SB'	IH 43 SB	1
0010	3681+90'SB'	IH 43 SB	1
0010	3775+97'NB'	IH 43 NB	1
0010	3373+25	CTH JJ NE LOOP	1
0010	3373+34	CTH JJ NE LOOP	1
0010	3376+14	CTH JJ NE LOOP	1
0010	3377+90	CTH JJ NE LOOP	1
0010	3367+21	CTH JJ NW LOOP	1
0010	3361+02	CTH JJ NW RAMP	1
0010	3360+96	CTH JJ NE RAMP	1
0010	3363+20	CTH JJ NE RAMP	1
0010	3366+07	CTH JJ NE RAMP	1
0010	31+80	CTH JJ EB	1
0010	145+95	54/57 NORTH LOOP	1
0010	27+00	WEBSTER AVENUE SB	1
0010	27+18	WEBSTER AVENUE NB	1
0010	83+00	ATKINSON DRIVE	1
0010	85+31	ATKINSON DRIVE	1
0010	3774+31	ATKINSON DRIVE SE RAMP	1
		TOTAL 0010	37

ADJUSTING MANHOLE COVERS

CATEGORY	STATION	LOCATION	611.8110 ADUSTING MANHOLE COVERS EACH
0010	42+45	WEBSTER AVE	1
0010	44+32	WEBSTER AVE	1
		TOTAL 0010	2

CULVERT PIPE LINER

CATEGORY	STATION	LOCATION	SPV.0090.05 CURED IN PLACE PIPE LINER FOR STEEL PLATE PIPE ARCH (APPROXIMATE DIMENSIONS 74" x 51") LF	REMARKS
0020	3362+67'NB'	IH 43 NB & SB	275	C-05-114
		TOTAL 0020	275	

DRAINAGE

CATEGORY	STATION	LOCATION	611.0540 MANHOLE COVERS TYPE K EACH	611.0600 INLET COVERS TYPE A EACH	611.0610 INLET COVERS TYPE BW EACH	611.0624 INLET COVERS TYPE H EACH	611.3003 INLETS 3-FT DIAMETER EACH	611.3225 INLETS 2X2.5-FT EACH	611.3230 INLETS2X3-FT EACH
0010	3495+72	IH 43 NB LT	-	2	-	-	2	-	-
0010	3670+30'NB'	IH 43 MEDIAN	-	-	2	-	-	2	-
0010	3674+08'NB'	IH 43 MEDIAN	-	-	2	-	-	2	-
0010	3677+78'NB'	IH 43 MEDIAN	-	-	2	-	-	2	-
0010	3681+53'NB'	IH 43 MEDIAN	-	-	2	-	-	2	-
0010	3685+06'NB'	IH 43 MEDIAN	-	-	2	-	-	2	-
0010	3765+39'SB'	IH 43 SB RT	-	-	1	-	-	1	-
0010	3767+11'SB'	IH 43 SB RT	-	-	1	-	-	1	-
0010	3770+11'SB'	IH 43 SB RT	-	-	1	-	-	1	-
0010	3773+11'SB'	IH 43 SB RT	-	-	1	-	-	1	-
0010	3776+13'SB'	IH 43 MEDIAN	-	-	-	-	-	-	-
0010	3778+46'SB'	IH 43 SB RT	1	-	1	-	1	1	-
0010	3779+59'SB'	IH 43 SB RT	1	-	1	-	1	1	-
0010	3370+68	CTH JJ NE LOOP	-	-	-	1	-	-	-
0010	3372+47	CTH JJ NW LOOP	-	-	-	1	-	-	-
0010	50+81	CTH JJ	-	1	-	-	-	-	-
0010	69+53	ATKINSON DRIVE	-	2	-	-	2	-	-
0010	78+00	ATKINSON DRIVE	-	-	-	1	-	-	-
0010	80+50	ATKINSON DRIVE	-	-	-	3	-	-	-
0010	85+30	ATKINSON DRIVE	-	-	-	2	-	-	2
		TOTAL 0010	2	5	16	8	6	16	2

Addendum No. 03
ID 1227-08-73
Revised Sheet 281
August 7, 2026

Proposal ID: 20260811011 **Project(s):** 1227-08-73

Federal ID(s): WISC 2026440

SECTION: 0001 Contract Items

Alt Set ID: **Alt Mbr ID:**

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
0382	SPV.0060 Special 04. Resetting Pipe End	1.000 EACH	_____.____	_____.____
0384	SPV.0060 Special 05. Removing Sand Barrel Arrays with Restoration	3.000 EACH	_____.____	_____.____
0386	SPV.0060 Special 06. Removing Raised Pavement Markers	161.000 EACH	_____.____	_____.____
0388	SPV.0060 Special 07. Concrete Control Cabinet Bases Type 9 NE Region Special	1.000 EACH	_____.____	_____.____
0390	SPV.0090 Special 01. Grading, Shaping and Finishing Ditch	1,629.000 LF	_____.____	_____.____
0392	SPV.0090 Special 02. Concrete Joint and Crack Cleaning and Repair	5,670.000 LF	_____.____	_____.____
0396	SPV.0170 Special 01. Cable Guard Median Grading and Shaping	122.000 STA	_____.____	_____.____
0398	205.0100 Excavation Common	2,202.000 CY	_____.____	_____.____
0400	SPV.0090 Special 05. Cured in Place Pipe Liner for Steel Plate Pipe Arch (app dim 74" X 51")	275.000 LF	_____.____	_____.____

Section: 0001 **Total:** _____.____

Total Bid: _____.____