Special Provisions

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SPECIAL PROVISIONS

1. General.

Perform the work under this construction contract for Project 1227-08-76, Manitowoc – Green Bay, STH 172 – Atkinson Drive, Brown County, Wisconsin as the plans show and execute the work as specified in the State of Wisconsin, Department of Transportation, Standard Specifications for Highway and Structure Construction, 2020 Edition, as published by the department, and these special provisions.

If all or a portion of the plans and special provisions are developed in the SI metric system and the schedule of prices is developed in the US standard measure system, the department will pay for the work as bid in the US standard system.
100-005 (20190618)

2. Scope of Work.

The work under this contract shall consist of concrete approach slab replacement, bridge deck milling and concrete overlays, concrete surface repairs, structure wingwall replacement, adjusting inlet structures, bridge painting, pavement markings and all incidental items necessary to complete the work as shown on the plans and included in the proposal and contract.
104-005 (20090901)

3. Prosecution and Progress.

Begin work within ten calendar days after the engineer issues a written notice to do so.

Provide the start date to the engineer in writing within a month after executing the contract but at least 14 calendar days before the preconstruction conference. Assume that the time frame is consistent with the contract completion time. Upon approval, the engineer will issue the notice to proceed within ten calendar days before the beginning of the approved time frame.

To revise the time frame, submit a written request to the engineer at least two weeks before the beginning of the intended time frame. The engineer will approve or deny that request based on the conditions cited in the request and its effect on the department's scheduled resources.

Winter weather work, excavation of frozen ground, high ground water, dewatering during winter months, and mitigation efforts for high water table elevations shall not be considered adverse weather delays to construction. Cost for dewatering is considered incidental to construction.

Anticipate cold weather and early spring concrete paving. Plan to heat aggregates and water for mixes, and that the heating of the aggregate and water is considered incidental to those concrete items. There will be no adverse weather delay for cold weather construction

When engaged in roadway cleaning operations, use equipment having vacuum or water spray mechanisms to eliminate the dispersion of particulate matter into the atmosphere. If vacuum equipment is employed, it must have suitable self-contained particulate collectors to prevent discharge from the collection bin into the atmosphere.

The contractor is advised that there may be multiple mobilizations for such items as erosion control, traffic control, detours, signing items, temporary pavement markings and other incidental items related to the staging. The department will make no additional payment for said mobilizations.

An assumed duration of specific traffic control set up and related construction activities have been included for information only. The contractor can elect to complete individual construction stages and traffic phases any time during the project contract, provided the prerequisites have been met and interim and final completion dates are met.

The department will not grant time extensions to the interim completion dates specified above for the following:

1. Severe weather as specified in standard spec 108.10.2.2.
2. Labor disputes that are not industry wide.
3. Delays in material deliveries.

Traffic/Construction Overview

Follow the construction operations as outlined in the staging overview sheets and other plan details. Items listed below are not limited to, but only highlight construction activities, that are subject to interim completion dates, liquidated damages, or penalties.

Do not begin work until July 20th, 2020.

Work to be completed in Spring/Summer/Fall 2020

Construct temporary paving along outside shoulder of IH 43, this work can not start until after September 8, 2020. This work will be performed at night, with single lane closure, and will be allowed to have 10 consecutive working days.

Complete Concrete Overlay on B-5-211, B-5-214, and B-5-223. This work will be completed under a full closure and each structure concrete overlay will have 25 working days.

Structures B-5-214 and B-5-223 cannot be closed at the same time.

Structure ramp B-5-223 work can not start until after September 8, 2020

Painting of structures within this contract can occur at any time.

All work in Stage 1 must be completed by October 16, 2020.

Work to be completed in 2021

Complete Paint on Structures B-5-202, B-5-203, B-5-205, B-5-206, B-5-214, B-5-217, B-5-218, B-5-219, B-5-220, B-5-221, and B-5-222.

Complete Concrete Overlay on B-5-202, B-5-203, B-5-208, B-5-209, B-5-210, B-5-212, B-5-213, B-5-215, B-5-216, B-5-219, B-5-220, B-5-221, B-5-222, and B-5-2224.

Structure B-5-221 and B-5-208 ramps cannot be closed at the same time.

Structure B-5-224 and B-5-213 ramps cannot be closed at the same time.

Painting of any structures within this contract can occur at any time.

Complete Wing Wall C-05-59 and C-05-72

Complete Sign Structure S-05-145

Structures B-5-202, B-5-203, B-5-209, and B-5-210, must have concrete overlay completed and work associated with S-05-145 must be completed by 11 pm on Thursday, May 27, 2021.

Concrete Overlay of structures B-5-208, B-5-212, B-5-213, B-5-215, B-5-216, B-5-219, B-5-220, B-5-221, B-5-222, and B-5-2224 must be completed by 3pm on July 1, 2021.

All work in Stage 2 must be completed by October 1, 2021.

Interim Completion of Work – 25 Day Closure for Structure B-5-211
Complete all work for structure B-5-211 and ramp within 25 consecutive working days of closing the ramp.

Supplement standard spec 108.11 as follows:

If the contractor fails to complete the work necessary to open structures B-5-211 and ramp, the department will assess $1,250 for each calendar day that the work remains incomplete. An entire calendar day will be charged for any period of time within a calendar day that the work remains incomplete.

Interim Completion of Work – 25 Day Closure for Structure B-5-214

Complete all work for structure B-5-214 and ramp within 25 consecutive working days of closing the ramp.

Supplement standard spec 108.11 as follows:

If the contractor fails to complete the work necessary to open structures B-5-214 and ramp, the department will assess $2,000 for each calendar day that the work remains incomplete. An entire calendar day will be charged for any period of time within a calendar day that the work remains incomplete.

Interim Completion of Work – 25 Day Closure for Structure B-5-223
Complete all work for structure B-5-223 and ramp within 25 consecutive working days of closing the ramp.

Supplement standard spec 108.11 as follows:

If the contractor fails to complete the work necessary to open structures B-5-223 and ramp, the department will assess $3,250 for each calendar day that the work remains incomplete. An entire calendar day will be charged for any period of time within a calendar day that the work remains incomplete.

Interim Completion of Work October 16, 2020
Complete all work in Summer/Fall 2020, as noted above, prior to 3:00 PM October 16, 2020. No additional damages will be assessed for failing to complete the work unless otherwise noted herein.

Supplement standard spec 108.11 as follows:

If the contractor fails to complete the work necessary by October 16, 2020, the department will assess $6,500 for each calendar day that the work remains incomplete. An entire calendar day will be charged for any period of time within a calendar day that the work remains incomplete.

Interim Completion of Work May 27, 2021
Complete all work for B-5-202, B-5-203, B-5-209, and B-5-210, wing wall C-05-59, and sign structure S-05-145 and all work associated by 9:00 PM, Thursday, May 27, 2021.

Supplement standard spec 108.11 as follows:

If the contractor fails to complete the work necessary to reopen the structures or complete the sign structure, the department will assess $22,500 for each calendar day that the work remains incomplete. An entire calendar day will be charged for any period of time within a calendar day that the work remains incomplete.

Interim Completion of Work July 1, 2021
Complete all remaining overlay and wing wall work for B-5-208, B-5-212, B-5-215, B-5-216, B-5-219, B-5-220, B-5-221, B-5-222, and B-5-224, and wing wall C-05-72 and all work associated by 3:00 PM, Thursday, July 1, 2021.

Supplement standard spec 108.11 as follows:

If the contractor fails to complete the work necessary to reopen the structures B-5-208, B-5-212, B-5-215, B-5-216, B-5-219, B-5-220, B-5-221, B-5-222, and B-5-224 and complete wing wall C-05-72, and all work associated with these structures, the department will assess $31,000 for each calendar day that the work remains incomplete. An entire calendar day will be charged for any period of time within a calendar day that the work remains incomplete.

Failure to Open Road Damages (FORD)
Supplement standard spec 108.11 as follows:

If the contractor fails to open IH-43 Interchange ramps to their respective existing number of lanes of traffic in each direction and remove all traffic control devices associated with the lane closure during times that single lane closures are not allowed including periods shown in the Article for Traffic, the department will assess an initial deduction as shown below for each ramp damage. The department will administer interim damages for the road not being open to traffic under the Failing to Open Road to Traffic administrative item.

B-05-210	$ 9,250	B-05-215	$ 4,750
B-05-211	$1,250	B-05-223	$ 3,250
B-05-213	$ 500	B-05-224	$ 3,750
B-05-214	$2,000		

Spring/Summer IH-43 North/Southbound work

IH-43 Nortbound	$2,250
IH-43 Southbound	$2,500

Final Contract Completion October 1, 2021
Complete all contract work prior to 12:01 AM October 1, 2021.

Supplement standard spec 108.11 as follows:

If the contractor fails to complete the contract work prior to 12:01 AM October 1, 2021, the department will assess $10,000 in liquidated damages for each calendar day that the work remains incomplete. An entire calendar day will be charged for any period of time within a calendar day that the work remains incomplete.

Time Frame
Provide the start date to the engineer in writing within a month after executing the contract but at least 14 calendar days before the preconstruction conference. Upon approval, the engineer will issue the notice to proceed within ten calendar days before the approved start date.

To revise the start date, submit a written request to the engineer at least two weeks before the intended start date. The engineer will approve or deny that request based on the conditions cited in the request and its effect on the department's scheduled resources.

Northern Long-eared Bat (*Myotis septentrionalis*)

Northern Long-eared Bats (NLEB) have the potential to inhabit the project limits because they roost in trees. Roosts may not have been observed on this project, but conditions to support the species exist. The species and all active roosts are protected by the Federal Endangered Species Act. If an individual bat or active roost is encountered during construction operations, stop work and notify the engineer and the WisDOT Regional Environmental Coordinator (REC).

If additional construction activities beyond what was originally specified are required to complete the work, approval from the engineer, following coordination with WisDOT REC, is required prior to initiating these activities.

Migratory Birds
Swallow and other migratory birds' nests have been observed on or under the existing bridge. All active nests (when eggs or young are present) of migratory birds are protected under the federal Migratory Bird Treaty Act.

The nesting season for swallows and other birds is usually between May 1 and August 30. Either prevent active nests from becoming established, or apply for a depredation permit from the US Fish and Wildlife Service for work that may disturb or destroy active nests. The need for a permit may be avoided by removing the existing bridge structure prior to nest occupation by birds, or clearing nests from all structures before the nests become active in early spring. As a last resort, prevent birds from nesting by installing a suitable netting device on the remaining structure prior to nesting activity. Include the cost for preventing nesting in the cost of Cleaning Decks.
Birds (20090901)

4. Lane Rental Fee Assessment.

A General
The contract designates some lane closures to perform the work. The contractor will not incur a Lane Rental Fee Assessment for closing lanes during the allowable lane closure times. The contractor will incur a Lane Rental Fee Assessment for each lane closure outside of the allowable lane closure times. If a lane is obstructed at any time due to contractor operations, it is considered a closure. The purpose of lane rental is to enforce compliance of lane restrictions and discourage unnecessary closures.

The allowable lane closure times are shown in the Traffic article.

Submit the dates of the proposed lane, ramp, and roadway restrictions to the engineer as part of the progress schedule. Coordinate lane, ramp, and roadway closures with any concurrent operations on adjacent roadways within 3 miles of the project.

If other projects are in the vicinity of this project, coordinate lane closures to run concurrent with lane closures on adjacent projects when possible. When lane closures on adjacent projects extend into the limits of this project, Lane Rental Fee Assessments will only occur if the closure facilitates work under this contract.

B. Lane Rental Fee Assessment for Fall 2020 work
The Lane Rental Fee Assessment incurred for each lane closure, each ramp closure, and each full closure of a roadway, per direction of travel, is as follows:

- Lane Rental Rate IH-43 NB - $500 per 15 minute increments
- Lane Rental Rate IH-43 SB - $625 per 15 minute increments

The Lane Rental Fee Assessment represents a portion of the cost of the interference and inconvenience to the road users for each closure. All lane, roadway, or ramp closure event increments 15 minutes and less will be assessed as a 15-minute increment.

The engineer, or designated representative, will be the sole authority in determining time period length for the Lane Rental Fee Assessment.

Lane Rental Fee Assessments will not be assessed for closures due to crashes, accidents, or emergencies not initiated by the contractor.

The department will assess Lane Rental Fee Assessment by the dollar under the administrative item Failing to Open Road to Traffic. The total dollar amount of Lane Rental Fee Assessment will be computed by multiplying the Lane Rental Assessment Rate by the number of 15-minute increments of each lane closure event as described above.

Lane Rental Fee Assessment will be in effect from the time of the Notice to Proceed until the department issues final acceptance. If interim completion time or contract time expires before the completion of specified work in the contract, additional liquidated damages will be assessed as specified in standard spec 108.11 or as specified within this contract.
stp-108-065 (20161130)

5. Traffic

Summer/Fall 2020:
Nightly lane closures constructing shoulder improvements at the mainline structures. Must be ten consecutive nights.

Ramp closures to complete concrete overlay for structures B-5-211, B-5-214, and B-5-223.

Spring/Summer/Fall 2021:
Traffic shift to outside shoulder to allow concrete overlays on inside lanes. Widen inside shoulder during closures.

The Real-Time Traffic Queue Warning System will only be used on this contract during 2021.

Full ramp closure of B-05-208, B-05-2013, B-05-215, and B-05-221 to complete concrete overlays.

Sign Structure Installation
Construct sign structure during simultaneous ramp closure

Bridge Painting:
Bridge paining can occur at any time. Traffic control and closures shall be coordinated with engineer and city.

Temporary Work Zone Clear Zone Working Restrictions.
The temporary work zone clear zone for this project is 18-feet from the edge of traveled way. If auxiliary lanes are present, clear zone is from the outside edge of the auxiliary lane.

Do not perform work in the median at any time unless protected by concrete barrier temporary precast in both directions except as allowed during lane closure periods.

Do not perform work within the clear zone unless protected by concrete barrier temporary precast or a lane closure during the allowed closure periods.

Park equipment and store materials, including stockpiles, a minimum of 30-feet from the edge of the traveled way. Equipment may be parked and material stored in the median if it meets the minimum distance requirement from both traveled ways or if it is protected by concrete barrier temporary precast.

If unsure whether an individual work operation will meet the safety requirements for working within the clear zone, review the proposed work operation with the engineer before proceeding with the work.

Replace standard specification 305.3.3.3(2) with the following:
If the roadway remains open to through traffic during construction and a 2-inch or more drop-off occurs within the clear zone, eliminate the drop-off prior to completing that day's work. Unless the special provisions specify otherwise, provide aggregate shoulder material compacted to a temporary 3:1 or flatter cross slope from the surface of the pavement edge.

ner-104-001 (20181017)

Wisconsin Lane Closure System Advance Notification

Provide the following advance notification to the engineer for incorporation into the Wisconsin Lane Closure System (LCS).

TABLE 108-1 CLOSURE TYPE AND REQUIRED MINIMUM ADVANCE NOTIFICATION

Closure type with height, weight, or width restrictions (available width, all lanes in one direction < 16')	MINIMUM NOTIFICATION
Lane and shoulder closures	7 calendar days
Full roadway closures	7 calendar days
Ramp closures	7 calendar days
Detours	7 calendar days
Closure type without height, weight, or width restrictions (available width, all lanes in one direction ≥16')	MINIMUM NOTIFICATION
Lane and shoulder closures	3 business days
Ramp closures	3 business days
Modifying all closure types	3 business days

Discuss LCS completion dates and provide changes in the schedule to the engineer at weekly project meetings in order to manage closures nearing their completion date.
stp-108-057 (20161130)

Lane Closure Restriction Times

I-43 between STH 172 and STH 54/57

Northbound:
7:00AM-7:00PM, Monday-Friday
10:00AM-5:00PM Saturday
10:00AM-1:00PM Sunday

Southbound:
6:00AM-6:00PM, Monday-Friday
10:00AM-5:00PM Saturday
10:00AM-6:00PM Sunday

I-43 between Leo Frigo and STH 54/57

Northbound:
6:00AM-9:00AM & 3:00PM-6:00PM, Monday-Thursday
6:00AM-7:00PM, Friday
10:00AM-3:00PM, Saturday
10:00AM-1:00PM, Sunday

Southbound:

6:00AM-9:00AM & 3:00PM-6:00PM, Monday-Thursday
7:00AM-7:00PM, Friday
11:00AM-3:00PM, Saturday
10:00AM-5:00PM, Sunday

Portable Changeable Message Signs – Message Prior Approval
After coordinating with department construction field staff, notify the Northeast Region Traffic Section at (920) 366-8033 (secondary contact number is (920) 360-3107) three business days prior to deploying or changing a message on a PCMS to obtain approval of the proposed message. The Northeast Region Traffic Unit will review the proposed message and either approve the message or make necessary changes.

Temporary Regulatory Speed Limit Reduction
A reduction of the posted regulatory speed limit from 70 mph to 55 mph is required when any of the following conditions are created within the project limits: 1. Lane(s) closed and workers are present and active in close proximity to an open lane. 2. Lane(s) narrowed to less than 12 feet and adjacent shoulder width is reduced. 3. Traffic is shifted partly or completely onto a shoulder and/or temporary pavement and shoulder width is reduced. At all other times the posted regulatory speed limit shall be 70 mph.

During periods when traffic conditions do not require a Temporary Regulatory Speed Reduction, speed limit signs shall be changed to the permanent posted speed limit. This may require posted speed sign changes twice a day or more. Changing temporary and existing/permanent signs between 70 mph and 55 mph shall be considered incidental to the item Traffic Control.

No portion of sign text shall be visible when not in use, regardless if it is temporary or permanent regulatory speed limit sign.

During approved temporary regulatory speed limit reductions, install regulatory speed limit signs on the inside and outside shoulders of the roadway at the beginning of the reduced regulatory speed zone, after all locations where traffic may enter the highway segment or every ½ mile within the reduced regulatory speed zone. Signs shall be installed at the end of the temporary regulatory speed zone to designate the end of the temporary regulatory speed zone and inform drivers the posted regulatory speed limit reverts back to 70 mph. To minimize possible confusion to the traveling public and to ensure appropriate speed enforcement, enhanced attention to placement and changing of speed limit signs is required.

Coordinate with department construction field staff to notify the Northeast Region Traffic Section with field location(s) of the temporary regulatory speed zone. Primary contact phone number: (920) 366-8033 (secondary contact number is (920) 360-3107). Contact the Northeast Region Traffic Section at least 14-calendar days prior to installation of the temporary regulatory speed zone. After notification, Northeast Region Traffic will create a "Temporary Speed Zone Declaration" to meet statutory requirements, allowing enforcement of this temporary regulatory speed limit.

When construction activities impede the location of a post mounted regulatory speed limit sign, mount the regulatory speed limit sign on portable supports that meet the "crashworthy" definition and height criteria in the Manual on Uniform Traffic Control Devices for Streets and Highways (MUTCD).

6. Holiday Work Restrictions.

Do not perform work on, nor haul materials of any kind along or across any portion of the highway carrying IH 43 traffic, and entirely clear the traveled way and shoulders of such portions of the highway of equipment, barricades, signs, lights, and any other material that might impede the free flow of traffic during the following holiday periods:

- Labor Day:
  - From noon Friday, September 4, 2020 to 6:00 AM Tuesday, September 8, 2020;
  - From noon Friday, September 3, 2021 to 6:00 AM Tuesday, September 7, 2020

- Memorial Day:
  - From noon Friday May 28, 2021 to 5:00 AM Tuesday June 1, 2021

- 4th of July:
  - From noon Friday July 2, 2021 to 5:00 AM Monday July 5, 2021;

- Maintain two lanes on IH-43 NB and IH-43 SB during all Lambeau Field events with an expected attendance of more than 30,000 from 5 hours prior to the event until 8 hours after the scheduled start time of the event

107-005 (20050502)

7. Environmental Work Restrictions

Vacant

8. Environmental Protection, Phragmites

Phragmites, an invasive species plant, is known to exist within the project limits and in areas that ground disturbance or excavation work is shown in the plans. All soils containing plant or root fragments that will be excavated or salvaged as part of the work within the contract shall be salvaged and used as topsoil within the immediate area of the work or deposited at an engineer approved waste site within the existing right of way within the project limits. All waste sites are subject to review and approval by the department and shall be suitable for the waste of material containing Phragmites. Waste material shall be placed in upland locations in the general area where the plant currently exists. For all equipment that comes into contact with Phragmites infested areas, use the following guidelines for inspection and cleaning of equipment prior to leaving the project site.

Locations to be verified by engineer in the field.

Ensure that all equipment that has been in contact with Phragmites infested areas or potentially infested areas has been decontaminated. Use the following inspection and removal procedures (guidelines from the Wisconsin Department of Natural Resources) for disinfection:

- Prior to leaving the contaminated site, wash machinery and ensure that the machinery is free of all soil and other substances that could possible contain exotic invasive species;
- Clean all equipment with hot water of 105°F to 110°F for a period of 30 minutes or hot water of 140°F for a period of five minutes. After cleaning, dry all equipment in a sunny location for at least three days.

Complete the inspection and removal procedure before equipment is brought to the project site and before the equipment leaves the project site.

9. Information to Bidders, U.S. Army Corps of Engineers Section 404 Permit.

The department has obtained a U.S. Army Corps of Engineers Section 404 permit. Comply with the requirements of the permit in addition to requirements of the special provisions. A copy of the permit is available from the regional office by contacting Brian Haen at (920) 366-4788.
107-054 (20080901)

10. Erosion Control Structures.

Within seven calendar days after the commencement of work on the bridge superstructure, place all permanent erosion control devices, including riprap, erosion mat, ditch checks, seed, fertilizer, mulch, soil stabilizer, or any other item required by the contract or deemed necessary by the engineer. These devices shall be in place in the area under the bridge and on both sides of the roadway, from the waterway to a point 100-feet behind the backwall of the abutment. Within said limits, place these devices to a height equivalent to the calculated water elevation resulting from a storm that occurs on the average of once every two years (Q2) as shown on the plan, or as directed by the engineer. Prior to initial construction operations, place turbidity barriers, silt screens, and other temporary erosion control measures as shown on the plans, and remove them after the permanent erosion control devices are in place unless directed otherwise by the engineer.
In the event that construction activity does not disturb the existing ground below the Q2 elevation, the above timing requirements for permanent erosion control shall be waived.
107-070 (20030820)

11. Utilities

Needs to be updated.

12. Railraod

Needs to be updated!

13. Traffic Control

Perform this work conforming to standard spec 643, and as the plans show, or as the engineer approves, except as follows.

Submit to engineer for approval a detailed traffic control plan for any changes to the proposed traffic control detail as the plans show. Submit this plan ten (10) days before the preconstruction conference.

The turning of traffic control devices when not in use to obscure the message will not be allowed under this contract.

Obtain prior approval from the engineer for the location of egress and ingress for construction vehicles to prosecute the work.

Conduct operations in such a manner that causes the least interference and inconvenience to the free flow of vehicles on the roadways. This includes the following:

Do not park or store any vehicle, piece of equipment, or construction materials on the right of way, unless otherwise specified in the traffic control article or without approval of the engineer.

All construction vehicles and equipment entering or leaving live traffic lanes shall yield to through traffic.

Equip all vehicles and equipment entering or leaving the live traffic lanes with a hazard identification beam (flashing yellow signal) capable of being visible on a sunny day when viewed without the sun directly on or behind the device from a distance of 1000 feet. Activate the beam when merging into or exiting a live traffic lane.

Do not disturb, remove or obliterate any traffic control signs, advisory signs, shoulder delineators or beam guard in place along the traveled roadways without the approval of the engineer. Immediately repair or replace any damage done to the above during the construction operations at contractor expense.

The traffic requirements are subject to change at the direction of the engineer in the event of an emergency.

ner-643-065 (20190410)

14. Portable Automated Real-Time Traffic Queue Warning System, Item 643.1200.S.

A Description

This special provision describes providing, repositioning, operating, maintaining, monitoring, calibrating, testing and removing a portable automated real-time traffic queue

warning system (QWS) capable of measuring vehicular speeds at downstream sections of a roadway, and displaying the speed information on portable changeable message signs at upstream locations. This will be used during construction in year 2021.

B Materials

Provide QWS components and software that is National Transportation Communications f or ITS Protocol (NTCIP) compliant.

B.1 Portable Changeable Message Signs (PCMS)

Provide PCMS conforming to standard spec 643. Ensure each PCMS is integrated with a portable traffic sensor, modem, and other equipment (e.g. automated system manager) mounted on it, and acts as a single "device" for the purpose of communicating with similarly integrated "devices" and displaying real-time traffic condition information.

B.2 Portable Traffic Sensors (PTS)

Provide PTS that are non-intrusive and capable of capturing individual vehicle speed (mph) and traffic volume. Integrate each sensor with a modem to communicate with the automated system manager.

B.3 Automated System Manager (ASM)

Provide an ASM that assesses current traffic data captured by the system PTS and communicates appropriate messages to the motorists through PCMS based on predetermined speed thresholds and messages.

B.4 System Communications

Ensure QWS communications meet the following requirements:

1. Perform required configuration of the QWS's communication system automatically during system initialization.
2. Communication between the server and any individual PCMS or PTS are independent through the full range of deployed locations, and do not rely upon communications with any other PCMS or PTS.
3. Incorporate an error detection/correction mechanism into the QWS communication system to insure the integrity of all traffic condition data and motorist information messages.

B.5 System Acceptance

Submit vendor verification to the engineer that the system will adequately perform the functions specified in this special provision. 14 calendar days before the pre-construction meeting. Adequate verification includes past successful performance of the system, literature and references from successful use of the system by other agencies, and/or demonstration of the system.

Provide contact information for a designated representative responsible for monitoring the performance of the system and for making modifications to the operational settings as the engineer directs.

Provide all testing and calibration equipment.

C Construction

C.1 General

Install and reposition Portable Automated Real-Time Queue Warning System per plan with PCMS spaced every one mile starting one mile upstream of the taper or as the engineer directs. Provide plan to the engineer 14 calendar days in advance of construction.

Number the devices in chronological order so they are visible from the shoulder with 6inch white high reflective sheeting.

Provide technical personnel for all system calibration, operation, maintenance, and timely on-call support services.

Promptly correct the system within 24 hours of becoming aware of a deficiency in the operation or individual part of the system. A minimum of seven days before deployment, place the QWS and demonstrate to the department that the QWS is operational. Maintain the QWS for the duration of the project. Ensure the system operates continuously (24 hours, 7 days a week) in the automated mode throughout the duration of the project.

Remove the system upon project completion.

C.2 Reports

Provide an electronic copy of a weekly summary report of all data via email to the engineer. Ensure the report includes, at a minimum, the average speed per sensor, traffic volume, time in congestive state per sensor and number of triggers per day.

C.3 Meetings

Attend mandatory in-person pre-construction meetings with the department. Attend additional meetings the department may require on a periodic basis. These meetings may be held in person or via teleconference, as scheduled by the department.

C.4 Programming

C.4.1 General

Program the QWS to ensure that the following general operations are performed:

1. Provide a password protected login to the ASM, website and all other databases.
2. Provide real-time data from the ASM to a website with a full color mapping feature and refresh every 60 seconds. Make data on website available to the department staff at all times for the duration of the work zone activity. Ensure website includes:
   - Vehicle speeds
   - PCMS messaging
   - Device locations
   - Traffic volume
3. Archive all traffic data and PCMS messages in a Microsoft excel format with date and time stamps.
4. Configure the website to quantify system failures which includes communication disruption between any devices in the system configuration, PCMS malfunctioning, PTS malfunction, loss of power, low battery, etc.

5. Automatically generate and send an email alert any time a user specified queue is detected by the system.

6. Provide default and advisory messages automatically based on traffic conditions.

7. Ensure the system autonomously restarts in case of any power failure.

8. Provide the department access to manually override PCMS messages for a user-specified duration, after which automatic operation will resume display of messages appropriate to the prevailing traffic conditions. Document all override messages.

C.4.2 System Operation Strategy

Arrange for the vendor/manufacturer to coordinate system operation, detection, trends/thresholds, and messaging parameters with the engineer.

The sequences below are a minimum requirement and can be adjusted by the engineer at their discretion.

Free Flow:

If the current speed on a roadway section is at or above 40 mph, the upstream PCMS will display nothing except for lighting the four corners to show that it is on.

Slow Traffic:

If the current speed on any downstream section of the roadway is between the 39 mph and 20 mph (for example, 35 mph), the following two phase messages will be displayed on the upstream PCMS as shown below:

EVENT	FRAME 1	FRAME 2
Speeds 20 mph to 39 mph	SLOW TRAFFIC AHEAD	PREPARE TO STOP

Stopped Traffic:

If the current speed on a roadway section of the roadway drops below 20 mph, the following two phase messages will be displayed on the upstream PCMS as shown below:

EVENT	FRAME 1	FRAME 2
Speeds 0 mph to 19 mph	TRAFFIC STOPPED AHEAD	EXPECT DELAYS

C.5 Calibration and Testing

At the beginning of the project and monthly throughout the duration of the project perform a successful field test and calibration at the QWS location to verify the system is detecting accurate vehicle speeds and volumes, and accurately relaying the information to the ASM and the PCMS.

Send email of successful calibration and testing to the engineer.

D Measurement

The department will measure Portable Automated Real-Time Traffic Queue Warning System by the day acceptably completed, measured as each complete system per roadway.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
643.1200.S	Portable Automated Real-Time Traffic Queue Warning System	DAY

Payment is full compensation for providing, repositioning, operating, maintaining, monitoring, calibrating, testing, and removing the complete system consisting of PCMS, PTS, ASM, and system communications.

Failure to correct a deficiency to the PCMS, PTS, or AMS within 24 hours after notification from the engineer or the department will result in a one day deduction of the measured quantity for each day in which the deficiency is not corrected.

Failure to correct the website within 24 hours after notification from the engineer will result in a 10% reduction of the day quantity for each day the website is down.

It is the engineer's sole discretion to assess the deductions for an improperly working QWS.

stp-643-045 (20181119)

15. Blue Specific Service Signs.

Add the following to standard spec 638.3.4:

Do not remove or move blue specific service signs or their associated posts. Specific service signs are signs with logos that identify commercial entities providing gas, food, lodging, camping, or attractions. A separate contractor, Interstate Logos - Wisconsin, is responsible for these signs. Contact Interstate Logos - Wisconsin at (844) 496-9163 a minimum of 14 calendar days in advance to coordinate removing, moving, or re-installation of these signs.

The contractor is responsible for damage done to these signs due to contractor operations.
638-010 (20150630)

16. Survey Monument Coordination

The CONTRACTOR is to notify the Northeast Regional Survey Coordinator, Cormac McInnis 920-492-5638, at least 30 days before the beginning of construction activities. The Regional Survey Coordinator will then make the arrangements to have the Public Land Survey Monument and Landmark Reference Monuments tied out.

After the majority of construction is complete (before restoration) the CONTRACTOR is again to notify the Survey Coordinator that the site is ready for the replacement of the

monuments. The Survey Coordinator will then make arrangements to have the Public Land Survey Monument and Landmark Reference Monuments reset.
ner-621-010 (20171213)

17. Notice to Contractor, Verification of Asbestos Inspection, No Asbestos Found.

John Roelke, License Number AII-119523, inspected Structure B-05-0202, B-05-0203, B-05-0205, B-05-0206, B-05-0208, B-05-0209, B-05-0210, B-05-0211, B-05-0212, B-05-0213, B-05-0214, B-05-0215, B-05-0216, B-05-0217, B-05-05-0218, B-05-0219, B-05-0220, B-05-0221, B-05-0222, B-05-0223, B-05-0224, for asbestos on August 6-7, 2012. No regulated Asbestos Containing Material (RACM) was found on this structure. A copy of the inspection report is available from: Brian Haen, 920-366-4788.

stp-107-127 (20120615)

18. Removing Guardrail

Remove guardrail in accordance to the pertinent requirements of section 204 of the standard specifications and as hereinafter provided.

Carefully remove, disassemble at all joints, and stockpile at a location on the right-of-way, outside the construction limits, all salvageable posts, guardrail, and hardware for disposal by the owner. The contractor shall contact the Brown County Highway Department (920) 492-4925, when removal of the existing guardrail has been completed.

Remove and dispose of all other material from the right of way.
(NER11-0127)

19. Removing Concrete Surface Partial Depth, Item 204.0109.S.

A Description
This special provision describes removing a portion of the concrete surfaces as shown on the plans according to standard spec 204, and as hereinafter provided.

B (Vacant)

C Construction
C.1 Equipment
Use a machine that provides a surface finish acceptable to the engineer. Shroud the machine to prevent discharge of any loosened material into adjacent work areas or live traffic lanes.

Use a machine that is equipped with electronic devices that provide accurate depth, grade and slope control, and acceptable dust control system.

C.2 Methods

Remove existing concrete to the depths as shown on the plan by grinding, planing, chipping, sawing, milling, or by using other methods approved by the engineer.

Perform the removal operation in such a manner as to preclude damage to the remaining pavement and results in a reasonable uniform plane surface free of excessive large scarification marks and having a uniform transverse slope.
The sequence of removal operations shall be such that no exposed longitudinal joints 2 inches or more in depth remain during non-working hours. Windrowing or storing of the removed material on the roadway will only be permitted in conjunction with a continuous removal and pick-up operation. During non-working hours, clear the roadway of all materials and equipment.

The removed pavement shall become the property of the contractor. Properly dispose of it according to standard spec 204.3.1.3.

D Measurement

The department will measure Removing Concrete Surface Partial Depth in area by the square foot of surface area removed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
204.0109.S	Removing Concrete Surface Partial Depth	SF

Payment is in full compensation for removing the concrete; and for disposing of materials.
204-041 (20080902)

20. QMP HMA Pavement Nuclear Density.

A Description

Replace standard spec 460.3.3.2 (1) and standard spec 460.3.3.2 (4) with the following:

(1) This special provision describes density testing of in-place HMA pavement with the use of nuclear density gauges. Conform to standard spec 460 as modified in this special provision.

(2) Provide and maintain a quality control program defined as all activities and documentation of the following:
1. Selection of test sites.
2. Testing.
3. Necessary adjustments in the process.
4. Process control inspection.

(3) Chapter 8 of the department's construction and materials manual (CMM) provides additional detailed guidance for QMP work and describes required procedures. Obtain the CMM from the department's web site at:
http://roadwaystandards.dot.wi.gov/standards/cmm/index.htm

(4) The department's Materials Reporting System (MRS) software allows contractors to submit data to the department electronically, estimate pay adjustments, and print selected reports. Qualified personnel may obtain MRS software from the department's web site at:

http://www.atwoodsystems.com/mrs

B Materials

B.1 Personnel

(1) Perform HMA pavement density (QC, QV) testing using a HTCP certified nuclear technician I, or a nuclear assistant certified technician (ACT-NUC) working under a certified technician.

(2) If an ACT is performing sampling or testing, a certified technician must coordinate and take responsibility for the work an ACT performs. Have a certified technician ensure that all sampling and testing is performed correctly, analyze test results, and post resulting data. No more than one ACT can work under a single certified technician.

B.2 Testing

(1) Conform to ASTM D2950 and CMM 8.15 for density testing and gauge monitoring methods. Perform nuclear gauge measurements using gamma radiation in the backscatter position. Perform each test for 4 minutes of nuclear gauge count time.

B.3 Equipment

B.3.1 General

(1) Furnish nuclear gauges from the department's approved product list at http://www.dot.wisconsin.gov/business/engrserv/approvedprod.htm.

(2) Have the gauge calibrated by the manufacturer or an approved calibration service within 12 months of its use on the project. Retain a copy of the manufacturer's calibration certificate with the gauge.

(3) Prior to each construction season, and following any calibration of the gauge, the contractor must perform calibration verification for each gauge using the reference blocks located in the department's central office materials laboratory. To obtain information or schedule a time to perform calibration verification, contact the department's Radiation Safety Officer at:

Materials Management Section
3502 Kinsman Blvd.
Madison, Wisconsin 53704
Telephone: 608-243-5998

B.3.2 Correlation of Nuclear Gauges

B.3.2.1 Correlation of QC and QV Nuclear Gauges

(1) Select a representative section of the compacted pavement prior to or on the first day of paving for the correlation process. The section does not have to be the same mix design.

(2) Correlate the 2 or more gauges used for density measurement (QC, QV). The QC and QV gauge operators will perform the correlation on 5 test sites jointly located. Record each density measurement of each test site for the QC, QV and back up gauges.

(3) Calculate the average of the difference in density of the 5 test sites between the QC and QV gauges. Locate an additional 5 test sites if the average difference exceeds 1.0 lb/ft^3. Measure and record the density on the 5 additional test sites for each gauge.

(4) Calculate the average of the difference in density of the 10 test sites between the QC and QV gauges. Replace one or both gauges if the average difference of the 10 tests exceeds 1.0 lb/ft^3 and repeat correlation process from B.3.2.1 (2).

(5) Furnish one of the QC gauges passing the allowable correlation tolerances to perform density testing on the project.

B.3.2.2 Correlation Monitoring

(1) After performing the gauge correlation specified in B.3.2.1, establish a project reference site approved by the department. Clearly mark a flat surface of concrete or asphalt or other material that will not be disturbed during the duration of the project. Perform correlation monitoring of the QC, QV, and all back-up gauges at the project reference site.

(2) Conduct an initial 10 density tests with each gauge on the project reference site and calculate the average value for each gauge to establish the gauge's reference value. Use the gauge's reference value as a control to monitor the calibration of the gauge for the duration of the project.

(3) Check each gauge on the project reference site a minimum of one test per day if paving on the project. Calculate the difference between the gauge's daily test result and its reference value. Investigate if a daily test result is not within 1.5 lb/ft^3 of its reference value. Conduct 5 additional tests at the reference site once the cause of deviation is corrected. Calculate and record the average of the 5 additional tests. Remove the gauge from the project if the 5-test average is not within 1.5 lb/ft^3 of its reference value established in B.3.2.2(2).

(4) Maintain the reference site test data for each gauge at an agreed location.

B.4 Quality Control Testing and Documentation

B.4.1 Lot and Sublot Requirements

B.4.1.1 Mainline Traffic Lanes, Shoulders, and Appurtenances

(1) A lot consists of the tonnage placed each day for each layer and target density specified in standard spec 460.3.3.1. A lot may include partial sublots.

(2) Divide the roadway into sublots. A sublot is 1500 lane feet for each layer and target density.

(3) A sublot may include HMA placed on more than one day of paving. Test sublots at the pre-determined random locations regardless of when the HMA is placed. No additional testing is required for partial sublots at the beginning or end of a day's paving.

(4) If a resulting partial quantity at the end of the project is less than 750 lane feet, include that partial quantity with the last full sublot of the lane. If a resulting partial quantity at the end of the project is 750 lane feet or more, create a separate sublot for that partial quantity.

(5) Randomly select test locations for each sublot as specified in CMM 8.15 prior to paving and provide a copy to the engineer. Locate and mark QC density test sites when performing the tests. Perform density tests prior to opening the roadway to traffic.

(6) Use Table 1 to determine the number of tests required at each station, depending on the width of the lane being tested. When more than one test is required at a station, offset the tests 10 feet longitudinally from one another to form a diagonal testing row across the lane.

Lane Width	No. of Tests	Transverse Location
5 ft or less	1	Random
Greater than 5 ft to 9 ft	2	Random within 2 equal widths
Greater than 9 ft	3	Random within 3 equal widths

Table 1

B.4.1.2 Side Roads, Crossovers, Turn Lanes, Ramps, and Roundabouts

(1) A lot represents a combination of the total daily tonnage for each layer and target density.

(2) Each side road, crossover, turn lane, ramp, and roundabout must contain at least one sublot for each layer.

(3) If a side road, crossover, turn lane, or ramp is 1500 feet or longer, determine sublots and random test locations as specified in B.4.1.1.

(4) If a side road, crossover, turn lane, or ramp is less than 1500 feet long, determine sublots using a maximum of 750 tons per sublot and perform the number of random tests as specified in Table 2.

Side Roads, Turn Lanes, Crossovers, Ramps, Roundabouts: Sublot/Layer tonnage	Minimum Number of Tests Required
25 to 100 tons	1
101 to 250 tons	3
251 to 500 tons	5
501 to 750 tons	7

Table 2

B.4.2 Pavement Density Determination

B.4.2.1 Mainline Traffic Lanes and Appurtenances

(1) Calculate the average sublot densities using the individual test results in each sublot.

(2) If all sublot averages are no more than one percent below the target density, calculate the daily lot density by averaging the results of each random QC test taken on that day's material.

(3) If any sublot average is more than one percent below the target density, do not include the individual test results from that sublot when computing the lot average density and remove that sublot's tonnage from the daily quantity for incentive. The tonnage from any such sublot is subject to disincentive pay according to standard spec 460.5.2.2.

B.4.2.2 Mainline Shoulders

B.4.2.2.1 Width Greater Than 5 Feet

(1) Determine the pavement density as specified in B.4.2.1.

B.4.2.2.2 Width of 5 Feet or Less

(1) If all sublot test results are no more than 3.0 percent below the minimum target density, calculate the daily lot density by averaging all individual test results for the day.

(2) If a sublot test result is more than 3.0 percent below the target density, the engineer may require the unacceptable material to be removed and replaced with acceptable material or allow the nonconforming material to remain in place with a 50 percent pay reduction. Determine the limits of the unacceptable material according to B.4.3.

B.4.2.3 Side Roads, Crossovers, Turn Lanes, Ramps, and Roundabouts

(1) Determine the pavement density as specified in B.4.2.1.

B.4.2.4 Documentation

(1) Document QC density test data as specified in CMM 8.15. Provide the engineer with the data for each lot within 24 hours of completing the QC testing for the lot.

B.4.3 Corrective Action

(1) Notify the engineer immediately when an individual test is more than 3.0 percent below the specified minimum in standard spec 460.3.3.1. Investigate and determine the cause of the unacceptable test result.

(2) The engineer may require unacceptable material specified in B.4.3(1) to be removed and replaced with acceptable material or allow the nonconforming material to remain in place with a 50 percent pay reduction. Determine limits of the unacceptable area by measuring density of the layer at 50-foot increments both ahead and behind the point of unacceptable density and at the same offset as the original test site. Continue testing at 50-foot increments until a point of acceptable density is found as specified in standard spec 460.5.2.2(1). Removal and replacement of material may be required if extended

testing is in a previously accepted sublot. Testing in a previously accepted sublot will not be used to recalculate a new lot density.

(3) Compute unacceptable pavement area using the product of the longitudinal limits of the unacceptable density and the full sublot width within the traffic lanes or shoulders.

(4) Retesting and acceptance of replaced pavement will be according to standard spec 105.3.

(5) Tests indicating density more than 3.0 percent below the specified minimum, and further tests taken to determine the limits of unacceptable area, are excluded from the computations of the sublot and lot densities.

(6) If 2 consecutive sublot averages within the same paving pass and same target density are more than one percent below the specified target density, notify the engineer and take necessary corrective action. Document the locations of such sublots and the corrective action that was taken.

B.5 Department Testing

B.5.1 Verification Testing

(1) The department will have a HTCP certified technician, or ACT working under a certified technician, perform verification testing. The department will test randomly at locations independent of the contractor's QC work. The department will perform verification testing at a minimum frequency of 10 percent of the sublots and a minimum of one sublot per mix design. The sublots selected will be within the active work zone. The contractor will supply the necessary traffic control for the department's testing activities.

(2) The QV tester will test each selected sublot using the same testing requirements and frequencies as the QC tester.

(3) If the verification sublot average is not more than one percent below the specified minimum target density, use the QC tests for acceptance.

(4) If the verification sublot average is more than one percent below the specified target density, compare the QC and QV sublot averages. If the QV sublot average is within 1.0 lb/ft^3 of the QC sublot average, use the QC tests for acceptance.

(5) If the first QV/QC sublot average comparison shows a difference of more than 1.0 lb/ft^3 each tester will perform an additional set of tests within that sublot. Combine the additional tests with the original set of tests to compute a new sublot average for each tester. If the new QV and QC sublot averages compare to within 1.0 lb/ft^3, use the original QC tests for acceptance.

(6) If the QV and QC sublot averages differ by more than 1.0 lb/ft^3 after a second set of tests, resolve the difference with dispute resolution specified in B.6. The engineer will notify the contractor immediately when density deficiencies or testing precision exceeding the allowable differences are observed.

B.5.2 Independent Assurance Testing

(1) Independent assurance is unbiased testing the department performs to evaluate the department's verification and the contractor's QC sampling and testing including personnel qualifications, procedures, and equipment. The department will perform the independent assurance review according to the department's independent assurance program.

B.6 Dispute Resolution

(1) The testers may perform investigation in the work zone by analyzing the testing, calculation, and documentation procedures. The testers may perform gauge correlation according to B.3.2.1.

(2) The testers may use correlation monitoring according to B.3.2.2 to determine if one of the gauges is out of tolerance. If a gauge is found to be out of tolerance with its reference value, remove the gauge from the project and use the other gauge's test results for acceptance.

(3) If the testing discrepancy cannot be identified, the contractor may elect to accept the QV sublot density test results or retesting of the sublot in dispute within 48 hours of paving. Traffic control costs will be split between the department and the contractor.

(4) If investigation finds that both gauges are in error, the contractor and engineer will reach a decision on resolution through mutual agreement.

B.7 Acceptance

(1) The department will not accept QMP HMA Pavement Nuclear Density if a non-correlated gauge is used for contractor QC tests.

C (Vacant)

D (Vacant)

E Payment

E.1 QMP Testing

(1) Costs for all sampling, testing, and documentation required under this special provision are incidental to the work. If the contractor fails to perform the work required under this special provision, the department may reduce the contractor's pay. The department will administer pay reduction under the Non-performance of QMP administrative item.

E.2 Disincentive for HMA Pavement Density

(1) The department will administer density disincentives according to standard spec 460.5.2.2.

E.3 Incentive for HMA Pavement Density

(1) Delete standard spec 460.5.2.3.

(2) If the lot density is greater than the minimum specified in standard spec table 460-3 and all individual air voids test results for that mixture are within +1.0 percent or -0.5 percent

of the design target in standard spec table 460-2, the department will adjust pay for that lot as follows:

Percent Lot Density Above Minimum	Pay Adjustment Per Ton
From -0.4 to 1.0 inclusive	$0
From 1.1 to 1.8 inclusive	$0.40
More than 1.8	$0.80

(3) The department will adjust pay under the Incentive Density HMA Pavement bid item. Adjustment under this item is not limited, either up or down, to the bid amount shown on the schedule of items.

(4) If a traffic lane meets the requirements for disincentive, the department will not pay incentive on the integrally paved shoulder.

(5) Submit density results to the department electronically using the MRS software. The department will validate all contractor data before determining pay adjustments.

460-020 (20100709)

21. Expansion Device, B-05-0202, B-05-0203, B-05-0208, B-05-0209, B-05-0210, B-05-0211, B-05-0212, B-05-0213, B-05-0214, B-05-0215, B-05-0216, B-05-0219, B-05-0220, B-05-0221, B-05-0222, B-05-0223, B-05-0224.

A Description

This special provision describes furnishing and installing an expansion device in accordance to standard spec 502, as shown on the plans, and as hereinafter provided.

B Materials

The minimum thickness of the polychloroprene strip seal shall be ¼-inch for non-reinforced elastomeric glands and 1/8-inch for reinforced glands. Furnish the strip seal gland in lengths suitable for a continuous one-piece installation at each individual expansion joint location. Provide preformed polychloroprene strip seals that conform to the requirements ASTM D3542, and have the following physical properties:

Property Requirements	Value	Test Method
Tensile Strength, min.	2000 psi	ASTM D412
Elongation @ Break, min	250%	ASTM D412
Hardness, Type A, Durometer	60 ± 5 pts.	ASTM D2240
Compression Set, 70 hours @212˚F, max.	35%	D395 Method B Modified
Ozone Resistance, after 70 hrs. at 100˚F under 20% Strain with 100 pphm ozone	No Cracks	ASTM D1149 Method A
Mass Change in Oil 3 after 70 hr. 212˚F Mass Change, max.	45%	ASTM D471

Install the elastomeric strip seal gland with tools recommended by the manufacturer, and with a lubricant adhesive conforming to the requirements of ASTM D4070.

The manufacturer and model number shall be one of the following approved strip seal expansion device products:

	Model Number Strip Seal Gland Size*		
Manufacturer	**4-Inch**	**5-Inch**	**6-Inch**
D.S. Brown	SSA2-A2R-400	SSA2-A2R-XTRA	SSA2-A2R-XTRA
R.J. Watson	RJA-RJ400	RJA-RJ500	RJA-RJ600
Watson Bowman Acme	A-SE400	A-SE500	A-SE800
Commercial Fabricators	A-AS400	-----	-----

*Expansion device strip seal gland size requirement of 4", 5", and 6" shall be as shown on the plans.

Furnish manufacturer's certification for production of polychloroprene represented showing test results for the cured material supplied, and certifying that it meets all specified requirements.
The steel extrusion or retainer shall conform to ASTM designation A 709 grade 36 steel. After fabrication, steel shall be galvanized conforming to the requirements ASTM A123.
Manufacturer's certifications for adhesive and steel shall attest that the materials meet the specification requirements.
502-020 (20110615)

22. Removing Asphaltic Concrete Deck Overlay B-05-0202, Item 509.9010.S.01; B-05-0203, Item 509.9010.S.02; B-05-0208, Item 509.9010.S.03; B-05-0209, Item 509.9010.S.04 B-05-0210, Item 509.9010.S.05; B-05-0211, Item 509.9010.S.06; B-05-0212, Item 509.9010.S.07; B-05-0213, Item 509.9010.S.08; B-05-0214, Item 509.9010.S.09; B-05-0215, Item 509.9010.S.10; B-05-0216, Item 509.9010.S.11; B-05-0219, Item 509.9010.S.12; B-05-0220, Item 509.9010.S.13; B-05-0221, Item 509.9010.S.14; B-05-0222, Item 509.9010.S.15; B-05-0223, Item 509.9010.S.16; B-05-0224, Item 509.9010.S.17;

A Description
Remove the asphaltic concrete overlay with or without an underlayment of waterproof membrane by milling the entire bridge deck in accordance to standard spec 204, the plans, and as hereinafter provided.

B (Vacant)

C Construction
C.1 Milling
Use a self-propelled milling machine that is specially designed and constructed for milling bridge decks. It shall mill without tearing or gouging the concrete masonry underlying the

deck overlay. The machine shall consist of a cutting drum with carbide or diamond tip teeth. Space the teeth on the drum to mill a surface finish that is acceptable to the engineer.

Shroud the machine to prevent discharge of any loosened material into adjacent work areas or live traffic lanes. Equip the machine with electronic devices that provide accurate depth, grade and slope control, and an acceptable dust control system.

Perform milling in a manner that precludes damage to the bridge floor and results in a uniform textured finish that:

- Is free of sharp protrusions;
- Has uniform transverse grooves that measure up to ¼-inch vertically and transversely; and
- If applicable, is acceptable to the manufacturer of the sheet waterproof membrane.

Windrowing or storing of the removed milled asphaltic concrete on the bridge is only permitted in connection with the continuous removal and pick-up operation. During nonworking hours, clear the bridge of all materials and equipment.

C.2 Cleaning

Blast-clean the entire surface of the deck, the vertical faces of curbs, sidewalks, and parapets to the depth of the adjoining overlay.

Clean the surface on which the new overlay will be placed to remove all loose particles and dust by either brooming and water pressure using a high-pressure nozzle, or by water and air pressure. Use water for cleaning that conforms to specifications for water under standard spec 501.2.4.

The removed asphaltic concrete shall become the property of the contractor; properly dispose of it in accordance to standard spec 204.

D Measurement

The department will measure Removing Asphaltic Concrete Deck Overlay in area by the square yard acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
509.9010.S.01	Removing Asphaltic Concrete Deck Overlay B-5-202	SY
509.9010.S.02	Removing Asphaltic Concrete Deck Overlay B-5-203	SY
509.9010.S.03	Removing Asphaltic Concrete Deck Overlay B-5-208	SY
509.9010.S.04	Removing Asphaltic Concrete Deck Overlay B-5-209	SY
509.9010.S.05	Removing Asphaltic Concrete Deck Overlay B-5-210	SY
509.9010.S.06	Removing Asphaltic Concrete Deck Overlay B-5-211	SY
509.9010.S.07	Removing Asphaltic Concrete Deck Overlay B-5-212	SY
509.9010.S.08	Removing Asphaltic Concrete Deck Overlay B-5-213	SY
509.9010.S.09	Removing Asphaltic Concrete Deck Overlay B-5-214	SY

509.9010.S.10	Removing Asphaltic Concrete Deck Overlay B-5-215	SY
509.9010.S.11	Removing Asphaltic Concrete Deck Overlay B-5-216	SY
509.9010.S.12	Removing Asphaltic Concrete Deck Overlay B-5-219	SY
509.9010.S.13	Removing Asphaltic Concrete Deck Overlay B-5-220	SY
509.9010.S.14	Removing Asphaltic Concrete Deck Overlay B-5-221	SY
509.9010.S.15	Removing Asphaltic Concrete Deck Overlay B-5-222	SY
509.9010.S.16	Removing Asphaltic Concrete Deck Overlay B-5-223	SY
509.9010.S.17	Removing Asphaltic Concrete Deck Overlay B-5-224	SY

Payment is full compensation for removing the asphaltic concrete with or without an underlayment of waterproof membrane; cleaning the concrete surfaces; and for properly disposing of all materials.
509-010 (20110615)

23. Cleaning Parapets, Item 509.9050.S.

A Description
Clean the inside faces and top surface of the concrete parapet according to the plans, as directed by the engineer, and as hereinafter provided.

B (Vacant)

C Construction
C.1 Blast Cleaning Operation
Blast clean the inside face and top surface of the concrete parapet according to SSPC SP-13 and ASTM D4259 for an abrasive blast cleaning to a surface roughness and finish as directed by the engineer. Before abrasive blast cleaning operations are to begin for the entire bridge parapet, prepare a representative trial area on the parapet concrete surface, and have the method of blast cleaning approved by the engineer.

C.2 Water Cleaning Operation
After abrasive blast cleaning operations are completed, clean the prepared parapet surface with water according to ASTM D4258. Remove with this water cleaning all dust and loose material from the parapet inside face and top that is to be coated with pigmented surface sealer. Provide an adequate drying time of the parapet inside face and top surface of at least 24 hours before coating with the pigmented surface sealer. Remove all loose concrete, dirt, dust, or blast material that remains on the bridge deck, as directed by the engineer.

D Measurement
The department will measure Cleaning Parapets in length by the linear foot of parapet, acceptably cleaned.

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

ITEM NUMBER	DESCRIPTION	UNIT
509.9050.S	Cleaning Parapets	LF

Payment is full compensation for abrasive blast cleaning; for water cleaning; and for all additional clean-up of the concrete surface and surrounding bridge deck area.
509-050 (20151210)

24. Structure Repainting General.

A General

A.1 Inspection

On all structures in this contract, notify the engineer of any missing or broken bolts or nuts, any missing or broken rivets, or of any cracks or flaws in the steel members while cleaning or painting.

A.2 Date Painted

At the completion of all painting work, stencil in black paint or contrasting color paint the date of painting the bridge. The numbers shall be three inches (75 mm) in height and shall show the month and year in which the painting was completed: e.g., 11-95 (November 1995). On each bridge painted, stencil the date at two locations. On truss bridges, stencil the date on the cover plates of end posts near and above the top of the railings at the oncoming traffic end. On steel girder bridges, stencil the date on the **inside** of the outside stringers at the abutments. The date on grade separation bridges shall be readable when going under the structure or at some equally visible surface near the ends of the bridge, as designated by the engineer.

A.3 Graffiti Removal

Remove any graffiti on concrete abutments, piers, pier caps, parapet railings, slope paving or any other location at the direction of the engineer. Use a brush sandblast to remove graffiti.

The above work will not be measured and paid for separately, but will be considered incidental to other items in the contract.

B (Vacant)

C Construction

C.1 Repainting Methods

Do not perform blasting, cleaning and painting on days of high winds. Prevailing winds in excess of 15 mph (25 km/hr) shall be considered high winds.
Place the final field coat of paint on the exterior of the exterior beams as a continuous painting operation. Stop at splices, vertical stiffeners or other appropriate locations so that lap marks are not evident or noticeable.

Completely clean and remove spent abrasive and other waste materials resulting from the contractor's operation from bridge deck surfaces, gutter lines, drains, curbs, bridge seats, pier caps, slope paving, roadway below, and all structural members and assemblies.

C.2 Inspection
Add the following to standard spec 105.9:

Furnish, erect and move scaffolding and other appropriate equipment to permit the inspector the opportunity to closely observe all affected surfaces. The scaffolding, with appropriate safety devices, shall meet the approval of the engineer.
517-005 (20150630)

25. Structure Repainting Recycled Abrasive B-5-0205, Item 517.1800.S.01; B-5-0206, Item 517.1800.S.02; B-5-0217, Item 517.1800.S.03; B-5-0218, Item 517.1800.S.04; B-5-0219, Item 517.1800.S.01; B-5-0220, Item 517.1800.S.02; B-5-0221, Item 517.1800.S.03; B-5-0222, Item 517.1800.S.04.

A Description
This special provision describes surface preparation and painting of the metal surfaces according to the manufacturer's recommendations as modified in this special provision.

A.1 Areas to be Cleaned and Painted

Structure B-5-0219
1,014 SF

Structure B-5-0220
1,094 SF

Structure B-5-0221
1,310 SF

Structure B-5-0222
935 SF

Areas are approximate and given for informational purposes only.

B Materials

B.1 Coating System

Furnish a complete coating system from the department's approved list for "Structure Repainting Recycle Abrasive Structure". The color for the finish coating material shall match the color number the plans show according to Federal Standard Number 595. Supply the engineer with the product data sheets for approval before any coating is applied. The product data sheets shall indicate the mixing and thinning directions, the recommended spray nozzles and pressures, and the minimum drying time between coats.

The color of the primer must be such that a definite contrast between it and the color of the blasted steel is readily apparent. There shall be a color contrast between all subsequent coats for the paint system selected. Submit color samples of the primer and all coats to the engineer for approval before any application of paint.

C Construction

C.1 Surface Preparation

Before blast cleaning, solvent clean all surfaces to be coated according to SSPC-SP1.

All metal surfaces must be blast cleaned in accordance with SSPC-SP10 and verified before painting.

Upon completion of surface preparation, test representative surfaces, which were previously rusted (i.e. pitted steel) for the presence of residual chloride. Perform Surface Contamination Tests (SCAT) in accordance with the manufacturer's recommendations. The tests must be witnessed by the engineer. If chlorides are detected at levels greater than 7ug/cm2, continue to clean the affected areas until results are below the specified limit. Submit anticipated testing frequencies and chloride remediation methods to the Engineer for review and approval.

Apply the prime coat the same day that the metal surfaces receive the No. 10 blast or re-blast before application. Cleaned surfaces shall be of the specified condition immediately before paint application. If rust bloom occurs before applying the primer, stop the painting operation in the area of the rust bloom and re-blast and clean the area to SSPC SP-10 before applying the primer.

The steel grit and any associated equipment brought to the site and used for blast cleaning shall be clean. Remove immediately dirty grit or equipment brought to the site at no expense to the department. Furnish an abrasive that has a gradation such that it will produce a uniform surface profile between 1 to 3 mils on the steel surface, as measured in accordance with ISO 8503-5.

The abrasive blasting and recovery system shall be a completely integrated self-contained system for abrasive blasting and recovery. It shall be an open blast and recovery system that will allow no emissions from the recovery operation. The recovery equipment shall be such that the amount of contaminants in the clean recycled steel grit shall be less than 1 percent by weight as per SSPC AB-2.

Remove by grinding all fins, tears, slivers, and burred or sharp edges that are present on any steel member, or that appear during the blasting operation, and re-blast the area to give a 1 to 3 mils surface profile.

Remove all spent material and paint residue from steel surfaces with a good commercial grade vacuum cleaner equipped with a brush-type cleaning tool, and test cleanliness in accordance with ASTM D4285. The airline used for surface preparation shall have an in-line water trap and the air shall be free of oil and water as it leaves the airline.

Take care to protect freshly coated surfaces from subsequent blast cleaning operations. Thoroughly wire brush damaged primed surfaces with a non-rusting tool, or if visible rust

occurs, re-blast to a near white condition. Clean and re-prime the brushed or blast cleaned surfaces in accordance with this specification.

C.3 Coating Application

Apply paint according to the manufacturer's recommendations in a neat workmanlike manner. Paint application shall normally be by airless spray or inaccessible areas by brush, roller or other methods approved by the engineer.

The engineer may allow the use of conventional spray equipment after satisfactory demonstration by the contractor of the proper application technique and handling of that equipment.

Mix the paint or coatings according to the manufacturer's directions to a smooth lump-free consistency. Keep paint thoroughly mixed during the painting application.

After the inspector approves the entire cleaned surface to be coated, apply a prime coat uniformly to the entire surface. Either before or after applying the prime coat, brush or spray a stripe coat of primer on all plate edges, bolt heads, nuts, and washers. Apply succeeding coats as the product data sheet shows.

Remove all dry spray by vacuuming, wiping, or sanding if necessary.

If the application of the coating at the required thickness in one coat produces runs, bubbles, or sags; apply a "mist-coating" in multiple passes of the spray gun; separate the passes by several minutes. Where excessive coating thickness produces "mud-cracking", remove such coating back to soundly bonded coating and re-coat the area to the required thickness.

The resultant paint film shall be smooth and uniform, without skips or areas of excessive paint in accordance with SSPC PA1.

The coating is supplied for normal use without thinning. If in cool weather it is necessary to thin the coating for proper application, thin according to the manufacturer's recommendations.

During surface preparation and coating application the ambient and steel temperature shall be between 39 degrees F and 100 degrees F. The steel temperature shall be at least 5 degrees F above the dew point temperature. (This requires the steel to be dry and free of any condensation or ice regardless of the actual temperature of the steel.) The relative humidity shall not exceed 85%. The manufacturer's ambient condition requirements must be followed if they are more stringent.

Paint thickness shall be within the requirements for a three coat paint system listed in the department's approved list for Structure Repainting Recycle Abrasive Structure and the paint system being used.

Time to recoat shall be according to the manufacturer's recommendations.

The dry film thickness will be determined by use of a magnetic film thickness gage. The gage shall be calibrated for dry film thickness measurement according to SSPC-PA 2. Dry film thickness in each area measured will be based on an average of three gage readings, after calibration of the gage to account for surface profile of the bare steel as a result of surface preparation.

D Measurement

The department will measure Structure Repainting Recycled Abrasive (Structure) as a single complete lump sum unit of work, completed according to the contract and accepted.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
517.1800.S.01	Structure Repainting Recycled Abrasive B-5-0205	LS
517.1800.S.02	Structure Repainting Recycled Abrasive B-5-0206	LS
517.1800.S.03	Structure Repainting Recycled Abrasive B-5-0217	LS
517.1800.S.04	Structure Repainting Recycled Abrasive B-5-0218	LS
517.1800.S.05	Structure Repainting Recycled Abrasive B-5-0219	LS
517.1800.S.06	Structure Repainting Recycled Abrasive B-5-0220	LS
517.1800.S.07	Structure Repainting Recycled Abrasive B-5-0221	LS
517.1800.S.08	Structure Repainting Recycled Abrasive B-5-0222	LS

Payment is full compensation for preparing and cleaning the designated surfaces; and for furnishing and applying the paint.

517-036 (20080501)

26. Structure Overcoating Cleaning and Priming B-5-0202, Item 517.3000.S.01; B-5-0203, Item 517.3000.S.02; B-5-0211, Item 517.3000.S.03; B-5-0214, Item 517.3000.S.04.

A Description

This special provision describes cleaning and painting with two or three coats of paint the metal surfaces as hereinafter provided.

A.1 Areas to be Cleaned and Painted

Structure B-5-0202

1. Two Coat Area: 22 SF with SP 1 cleaning.
2. Three Coat Area: 3 SF with SP 3 cleaning.

Structure B-5-0203

1. Two Coat Area: 22 SF with SP 1 cleaning.
2. Three Coat Area: 3 SF with SP 3 cleaning.

Structure B-5-0211

1. Two Coat Area: 22 SF with SP 1 cleaning.

2. Three Coat Area: 3 SF with SP 3 cleaning.

Structure B-5-0214
1. Two Coat Area: 22 SF with SP 1 cleaning.
2. Three Coat Area: 3 SF with SP 3 cleaning.

B (Vacant)

C Construction

C.1 Surface Preparation

Prior to overcoating or power tool cleaning, solvent clean all surfaces to be coated according to SSPC-SP1. A SSPC-SP 3 power Tool Cleaning according to Steel Structures Painting Council Specification 3 will be required on all metal surfaces to be painted with a three-coat system. Prime the same day, or re-clean before application, all metal surfaces receiving a No. 3 cleaning.

Remove all abrasive or paint residue from steel surfaces with a High Efficiency Particulate Abatement (HEPA-VAC) vacuum cleaner equipped with a brush-type cleaning tool, or by double blowing. If the double blowing method is used, vacuum the exposed top surfaces of all structural steel, including flanges, longitudinal stiffeners, splices, plates, and hangers, after the double blowing operations are completed. The air line used for blowing the steel clean shall have an inline water trap and the air shall be free of oil and water as it leaves the air line.

Take care to protect freshly coated surfaces from subsequent cleaning operations. Thoroughly wire brush damaged primed surfaces with a non-rusting tool. Clean and re-prime the brushed surfaces within the time recommended by the manufacturer.

C.2 Painting

Paint by applying two or three coats of an approved coating system as specified herein to the surfaces as described in A.1 from the department's approved products list.

C.3 Coating Application

Apply paint in a neat, workmanlike manner. The resultant paint film shall be smooth and uniform without skips or areas of excessive paint. Apply coating in accordance to the manufacturer's recommendations.

Prior to applying the prime coat, coat with primer all edges, rivet and bolt heads, nuts and washers by using either a brush, roller, or spray application.

Dry Film Thickness per coat shall be a minimum of 3-mil. The dry film thickness shall be determined by use of a magnetic film thickness gage. The gage shall be calibrated for dry film thickness measurement in accordance to SSPC-PA 2.

During surface preparation and coating application, the ambient and steel temperature shall be between 39 and 100 degrees F. The steel temperature shall be at least 5 degrees F above the dew point temperature, and the relative humidity shall not exceed 85%.

D Measurement
The department will measure Structure Overcoating Cleaning and Priming (Structure), completed in accordance with the contract and accepted, as a single complete unit of work.

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

ITEM NUMBER	DESCRIPTION	UNIT
517.3000.S.01	Structure Overcoating Cleaning and Priming B-5-0202	LS
517.3000.S.02	Structure Overcoating Cleaning and Priming B-5-0203	LS
517.3000.S.03	Structure Overcoating Cleaning and Priming B-5-0211	LS
517.3000.S.04	Structure Overcoating Cleaning and Priming B-5-0214	LS

Payment is full compensation for preparing and cleaning the designated surfaces; and for furnishing and applying the paint.
517-036 (20080501)

27. Containment and Collection of Waste Materials B-5-0202, Item 517.4000.S.01; B-5-0203, Item 517.4000.S.02; B-5-0211, Item 517.4000.S.03; B-5-0214, Item 517.4000.S.04.

A Description
This special provision describes furnishing and erecting tarpaulins to contain, collect and store the spent material from surface preparation of steel surfaces, collecting such spent material, and labeling and storing the spent material in waste containers in accordance to the contract and as hereinafter provided.

B Materials
Provide 5-gallon lidded plastic containers for containing the spent material.

C Construction
Erect tarpaulins or other materials to collect all of the spent material from power tool cleaning. Consider and treat all spent material as hazardous waste because it contains lead.

Collect and store all waste material collected by this operation at the bridge site for disposal. Collect and store all waste materials at the end of each workday or more often if needed. Store materials in 5-gallon lidded plastic containers.

Label each container with the date the first waste was placed in the container and the words "Hazardous Waste – EPA Waste Code D008." Lock and secure all containers at the end of each workday. Keep the containers covered at all times except to add or remove waste

material. Store the containers in an accessible and secured area, not located in a storm water runoff course, flood plain or exposed to standing water.

Collect the spent debris by vacuuming, shoveling, sweeping, or by channeling it directly to disposal containers. The enclosure shall be thoroughly cleaned at the end of each work day.

D Measurement
The department will measure Containment and Collection of Waste Materials (Structure), completed in accordance to the contract and accepted, as a single complete unit of work for each structure designated in the contract.

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

ITEM NUMBER	DESCRIPTION	UNIT
517.4000.S.01	Containment and Collection of Waste Materials B-5-0202	LS
517.4000.S.02	Containment and Collection of Waste Materials B-5-0203	LS
517.4000.S.03	Containment and Collection of Waste Materials B-5-0211	LS
517.4000.S.04	Containment and Collection of Waste Materials B-5-0214	LS

Payment is full compensation for designing, erecting, operating, maintaining and disassembling the containment devices; collecting, labeling and storing spent materials in appropriate containers.
517-037 (20080902)

28. Negative Pressure Containment and Collection of Waste Materials B-5-0205, Item 517.4050.S.01; B-5-0206, Item 517.4050.S.02; B-5-0217, Item 517.4050.S.03; B-5-0218, Item 517.4050.S.04; B-5-0219, Item 517.4050.S.05; B-5-0220, Item 517.4050.S.06; B-5-0221, Item 517.4050.S.07; B-5-0222, Item 517.4050.S.08.

A Description
This special provision describes providing a dust collector to maintain a negative air pressure in the enclosure; furnishing and erecting enclosures as required to contain, collect and store waste material resulting from the preparation of steel surfaces for painting, and repainting, including collection of such waste material, and labeling and storing waste material in approved hazardous waste containers.

B (Vacant)

C Construction
Erect an enclosure to completely enclose (surround) the blasting operations. The ground, slope paving, or roadway cannot be used as the bottom of the enclosure unless covered by approved containment materials. So that there are no visible emissions to the air or ground or water,

design, erect, operate, maintain and disassemble the enclosures in such a manner to effectively contain and collect dust and waste materials resulting from surface preparation and paint over spray. Suspend all enclosures over water from the structure or as approved by the engineer.

Construct the enclosure of flexible materials such as tarpaulins or of rigid materials such as plywood, or of a combination of flexible and rigid materials and meet SSPC Guide 6 requirements with Level 1 emissions. Systems manufactured and provided by Eagle Industries, Detroit Tarps, or equal, are preferred. The tarpaulins shall be a non-permeable material, either as part of the tarp system or have a separate non-permeable lining. Maintain all materials free of tears, cuts or holes. The vertical sides of the enclosure shall extend from the bottom of the deck down to the level of the covered work platform or covered barge where used for structures over water, and shall be fastened securely to those levels to prevent the wind from lifting them. Bulkheads are required between beams to enclose the blasting area as approved by the engineer. Where bulkheads are required, construct them of plywood and properly seal them. To prevent spent materials and paint over spray from escaping the enclosed area, overlap and fasten together all seams. Place groundcovers under all equipment before operations or as approved by the engineer.

To allow proper cleaning, inspection of structures or equipment, and painting, provide safe adequate artificial lighting in areas where natural light is inadequate.

Provide a dust collector so that there are no visible emissions outside of the enclosure and so that a negative air pressure inside the enclosure is maintained. The dust collector shall be sized to maintain the minimum air flow based on the cross-sectional area of the enclosure.

A combination of positive air input and negative air pressure may be needed to maintain the minimum airflow within the enclosure.

Filter all air exhausted from the enclosure to create a negative pressure within the enclosure so as to remove all hazardous and other particulate matter.

After all debris has been removed and all painting has been approved in the containment area is complete, remove containment in accordance with SSPC Guide 6.

As a safety factor for structures over water, provide for scum control. Provide a plan for corrective measures to mitigate scum forming and list the procedures, labor and equipment needed to assure compliance. Effectively contain the scum that forms on the water and does not sink in place from moving upstream or downstream by the use of floating boom devices.

If in the use of floating boom devices the scum tends to collect at the devices, contain, collect, store the scum, and do not allow it to travel upstream or downstream beyond the devices. Remove the scum at least once a day or more often if needed.

Collect and store at the bridge site for disposal all waste material or scum collected by this operation, or any that may have fallen onto the ground tarps. Collect and store all waste material and scum at the end of each workday or more often if needed. Storage shall be in

provided hazardous waste containers. Label each container as it is filled, using the labels provided by the Hazardous Waste Disposal contractor. Check the label and ensure that the project ID, bridge number and EPA ID match the structure. Fill in the generation date when the first material is placed in the container. Secure all containers at the end of each workday. Keep the containers covered at all times except to add or remove waste material. Store the containers in an accessible and secured area, not located in a storm water runoff course, flood plain, or exposed to standing water.

In a separate operation, recover the recyclable abrasive for future application, and collect the paint and/or corrosion particles for disposal.

D Measurement

The department will measure Negative Pressure Containment and Collection of Waste Materials (Structure) as a single complete lump sum unit of work for each structure designated in the contract, completed in accordance with the contract and accepted,.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
517.4000.S.01	Negative Pressure Containment and Collection of Waste Materials B-5-0205	LS
517.4000.S.02	Negative Pressure Containment and Collection of Waste Materials B-5-0206	LS
517.4000.S.03	Negative Pressure Containment and Collection of Waste Materials B-5-0217	LS
517.4000.S.04	Negative Pressure Containment and Collection of Waste Materials B-5-0218	LS
517.4000.S.05	Negative Pressure Containment and Collection of Waste Materials B-5-0219	LS
517.4000.S.06	Negative Pressure Containment and Collection of Waste Materials B-5-0220	LS
517.4000.S.07	Negative Pressure Containment and Collection of Waste Materials B-5-0221	LS
517.4000.S.08	Negative Pressure Containment and Collection of Waste Materials B-5-0222	LS

Payment is full compensation for designing, erecting, operating, maintaining and disassembling the containment devices; providing negative pressure exhaust ventilation; collecting, labeling and for storing spent materials in provided hazardous waste containers Stsp-517-065 (20140630)

29. Portable Decontamination Facility, Item 517.6001.S

A Description

This special provision describes furnishing and maintaining weekly, or more often if needed, a single unit portable decontamination facility.

B Material

Supply and operate all equipment in accordance with OSHA.

Supply adequate heating equipment with the necessary fuel to maintain a minimum temperature of 68° F in the facility.

The portable decontamination facility shall consist of a separate "Dirty Room", "Shower Room" and "Clean Room". The facility shall be constructed so as to permit use by either sex. The facility shall have adequate ventilation.

The "Dirty Room" shall have appropriately marked containers for disposable garments, clothing that requires laundering, worker shoes, and any other related equipment. Each container shall be lined with poly bags for transporting clothing, or for disposal. Benches shall be provided for personnel.

The "Shower Room" shall include self-contained individual showering stalls that are stable and well secured to the facility. Provide showers with a continuous supply of potable hot and cold water. The wastewater must be retained for filtration, treatment, and/or for proper disposal.

The "Clean Room" shall be equipped with secure storage facilities for street clothes and separate storage facilities for protective clothing. The lockers shall be sized to store clothing, valuables and other personal belongings for each worker. Benches shall be provided for personnel.

Supply a separate hand wash facility, either attached to the decontamination facility or outside the containment.

C Construction

Properly contain, store, and dispose of the wastewater.

D Measurement

The department will measure Portable Decontamination Facility by each individual unit acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
517.6001.S	Portable Decontamination Facility	EACH

Payment is full compensation for furnishing and maintaining a portable decontamination facility.

30. Slope Paving Repair Crushed Aggregate, Item 604.9010.S

A Description
Furnish and place crushed aggregate slope paving where erosion has occurred, according to standard spec 604, the plans, and as hereinafter provided.

B Materials
Furnish materials conforming to standard spec 604.2.

C Construction
Replace paragraph (1) of standard spec 604.3.2 with the following:
Place the crushed aggregate on the prepared foundation in areas where erosion has occurred. Shape and consolidate it using mechanical or hand methods to provide a stable, even and uniform surface.

D Measurement
The department will measure Slope Paving Repair Crushed Aggregate by the cubic yard acceptably completed.

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

ITEM NUMBER	DESCRIPTION	UNIT
604.9010.S	Slope Paving Repair Crushed Aggregate	CY

Payment is full compensation for all excavating and backfilling required to prepare the foundation; disposing of surplus materials; providing, handling, placing, and consolidating the crushed aggregate; providing, handling, heating, and for applying the asphaltic material.
604-010 (20100709)

31. Cover Plates Temporary, Item 611.8120.S.

A Description
This special provision describes furnishing, installing and removing a steel plate to cover and support asphaltic pavement and traffic loading at manholes, inlets and similar structures during milling and paving operations.

B Materials
Provide a 0.25-inch minimum thickness steel plate that extends to the outside edge of the existing masonry.

C (Vacant)

D Measurement
The department will measure Cover Plates Temporary as each individual unit, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
611.8120.S	Cover Plates Temporary	Each

Payment is full compensation for furnishing, installing, and removing the cover plates.

The steel plates shall become the property of the contractor when no longer needed in the contract work.

611-006 (20151210)

32. Nighttime Work Lighting-Stationary.

A Description

Provide portable lighting as necessary to complete nighttime work. Nighttime operations consist of work specifically scheduled to occur after sunset and before sunrise.

B (Vacant)

C Construction

C.1 General

This provision shall apply when providing, maintaining, moving, and removing portable light towers and equipment-mounted lighting fixtures for nighttime stationary work operations, for the duration of nighttime work on the contract.

At least 14 days prior to the nighttime work, furnish a lighting plan to the engineer for review and acceptance. Address the following in the plan:

1. Layout, including location of portable lighting – lateral placement, height, and spacing. Clearly show on the layout the location of all lights necessary for every aspect of work to be done at night.

2. Specifications, brochures, and technical data of all lighting equipment to be used.

3. The details on how the luminaires will be attached.

4. Electrical power source information.

5. Details on the louvers, shields, or methods to be employed to reduce glare.

6. Lighting calculations. Provide illumination with average to minimum uniformity ratio of 5:1 or less throughout the work area.

7. Detail information on any other auxiliary equipment.

C.2 Portable Lighting

Provide portable lighting that is sturdy and free standing and does not require any guy wires, braces, or any other attachments. Furnish portable lighting capable of being moved as necessary to keep up with the construction project. Position the portable lighting and trailers to minimize the risk of being impacted by traffic on the roadway or by construction traffic or equipment. Provide lightning protection for the portable lighting. Portable lighting shall withstand up to 60 mph wind velocity.

If portable generators are used as a power source, furnish adequate power to operate all required lighting equipment without any interruption during the nighttime work. Provide wiring that is weatherproof and installed according to local, state, federal (NECA and OSHA) requirements. Equip all power sources with a ground-fault circuit interrupter to prevent electrical shock.

C.3 Light Level and Uniformity
Position (spacing and mounting height) the luminaires to provide illumination with an average to minimum uniformity ratio of 5:1 or less throughout the work area.

Illuminate the area as necessary to incorporate construction vehicles, equipment, and personnel activities.

C.4 Glare Control
Design, install, and operate all lighting supplied under these specifications to minimize or avoid glare that interferes with all traffic on the roadway or that causes annoyance or discomfort for properties adjoining the roadway. Locate, aim, and adjust the luminaires to provide the adequate level of illumination and the specified uniformity in the work area without the creation of objectionable glare.
Provide louvers, shields, or visors, as needed, to reduce any objectionable levels of glare. As a minimum, ensure the following requirements are met to avoid objectionable glare on the roadways open to traffic in either direction or for adjoining properties:

1. Aim tower-mounted luminaires, either parallel or perpendicular to the roadway, so as to minimize light aimed toward approaching traffic.

2. Aim all luminaires such that the center of beam axis is no greater than 60 degrees above vertical (straight down).

If lighting does not meet above-mentioned criteria, adjust the lighting within 24 hours.

C.5 Continuous Operation
Provide and have available sufficient fuel, spare lamps, generators, and qualified personnel to ensure that the lights will operate continuously during nighttime operation. In the event of any failure of the lighting system, discontinue the operation until the adequate level of illumination is restored. Move and remove lighting as necessary.

D (Vacant)

E Payment
Costs for furnishing a lighting plan, and for providing, maintaining, moving, and removing portable lighting, tower mounted lighting, and equipment-mounted lighting required under this special provision are incidental to the contract.
643-010 (20100709)

33. Adjusting Inlet Covers

Construct in accordance with Section 611 of the Standard Specifications, except as follows:
Delete section 611.3.7 and replace with the following:

(1) Adjust the lids of covers on resurfacing projects using adjustment castings designated for the purpose. Adjustment castings shall be in accordance with the material requirements of Section 611 of the Standard Specifications. Provide the manufacturer's Certification of Compliance, product data sheet, and installation instructions to the engineer at least 14 days prior to the work.

34. Manhole, Inlet, and Catch Basin Adjusting Rings

Add to standard specification 611.3:

When using concrete adjustment rings:

The height of the grade ring shall equal (to within an inch and not to exceed) the height of the adjustment to minimize the number of joints in the chimney section. Multiple grade rings will not be allowed where one will suffice. Concrete grade rings less than 2-inches in thickness are not allowed. Concrete rings shall be of a size that closely matches the inside and outside dimensions of the structures.

When using rubber adjustment rings:

Rubber grade rings shall be in a flat and/or tapered configuration of a size to closely match the inside and outside dimensions of circular or rectangular structures, installed individually or in combination not to exceed 3-inches in height. If more than 3-inches of adjustment is necessary, use one concrete ring 3-inches or more in height with rubber rings on top of the concrete ring. If multiple rubber adjustment rings are necessary, a maximum of two adjustment rings can be used. Rubber grade rings shall be tapered to match the cross slope and profile of the roadway.

ner-611-050 (20190722)

35. Cleaning and Painting Bearings, Item SPV.0060.01

A Description
This special provision describes cleaning and painting the existing steel bearings on structures as shown on the plans, as directed by the engineer, and in accordance with section 517 of the standard specifications.

B Materials
Furnish a complete epoxy coating system from the department's approved product list. Use the same coating system for all repairs due to handling, shipping and erecting, and for all other

uncoated areas. The color of epoxy shall be white and the urethane coating material shall match the color number shown on the plans in accordance with Federal Standard Number 595B, as printed in 1989. Supply the engineer with the product data sheets before any coating is applied. The product data sheets shall indicate the mixing and thinning directions, the minimum drying time for shop or field applied coats, and the recommended procedures for coating galvanized bolts, nuts, and washers.

C Construction

C.1 Surface Preparation

Clean areas of loose paint and rust by wire brushing, grinding, or other mechanical means. Sound paint does not need to be removed.

After clean up and storage of waste material, blast cleaning is allowed for only those areas where paint has been removed. Shield adjacent painted areas during blast cleaning operations. The blasting sand does not have to be collected.

Furnish adequate containment methods as required to contain and collect waste material resulting from the preparation of painted steel surfaces for painting. All clean-up activities should minimize dust. Store waste materials in hazardous waste containers provided by the department.

C.2 Coating Application

Apply paint in a neat, workmanlike manner, and in accordance with the manufacturer's instructions and recommendations. Paint application shall be brushed on.

D Measurement

The department will measure Cleaning and Painting Bearings as each individual bearing acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.01	Cleaning and Painting Bearings	Each

Payment is full compensation for preparing and cleaning the designated bearings; furnishing and applying the paint; cleaning up, and containing and collecting all waste materials; and for furnishing all labor, tools, equipment, materials, and incidentals necessary to complete the contract work.

36. Remove and Reset Beam Connection, Item SPV.0060.02

Brian I am assuming this is going to be updated along with the following SPV once EXP provides documents.

A Description

This special provision describes removal and resetting the W Beam and Thrie Beam connection to concrete parapets in areas of concrete surface repair, removal and installation of hardware as shown on the plans and as hereinafter provided.

B Materials
Provide materials in accordance to section 614 of the standard specifications and as shown on the plans.

C Construction
Remove and reset W Beam Connections, and Thrie Beam Connections, conflicting anchor assemblies for beam type guard rail and install as required. Install new hardware as required.

D Measurement
The department will measure Remove and Reset Beam Connection by the unit complete in place.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.02	Remove and Reset Beam Connection	Each

Payment is full compensation for furnishing, hauling, and placing of all materials.

37. Strapping B-5-241, Item SPV.0060.03; Strapping B-5-245, Item SPV.0060.04

A Description
Secure the wing wall to the culvert or abutment body by providing and installing a structural channel in accordance with the plans, the pertinent requirements of the standard specifications, and as hereinafter provided.

B (Vacant)

C Construction
Furnish a galvanized structural channel of size and material shown on the plans.

Attach the structural channel with the number, size and spacing of anchors shown on the plans.

D Measurement
The department will measure Strapping B-5-245, as each wing for the repair work acceptably completed.

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

ITEM NUMBER	DESCRIPTION	UNIT

SPV.0060.03	Strapping B-5-241	Each
SPV.0060.04	Strapping B-5-245	Each

Payment is full compensation for furnishing the channel, galvanizing, providing the anchors, and installing the channel with anchors.

38. Cleaning Concrete Girder Ends, Item SPV.0090.01

A Description
This Special Provision describes the removing of any loose, delaminated, or deteriorated concrete from end 5 ft. of concrete girders, cleaning and painting any exposed bar steel reinforcement or steel prestressing strand - where shown in the plans, and as directed the engineer.

B (Vacant)

C Construction
C.1 Surface preparation
Use construction methods in accordance with section 203 and 517 of the Standard Specifications, and as hereinafter provided:

1. Take necessary precautions while removing deteriorated concrete to preclude damage to the remaining sound concrete and preserve all existing reinforcing steel and prestressing strand. Clean, realign and retie existing reinforcing steel, as the engineer considers necessary.

2. Blast clean all exposed bar steel reinforcement and steel prestressing strand to remove all rust and corrosion prior to painting.

3. Where removal of the deteriorated concrete extends to a depth behind the bar steel reinforcement or steel prestressing strand, repair the area after painting bar steel reinforcement and steel prestressing strand. This repair work shall be done in accordance with, and paid for as, concrete surface repair.

C.2 Coating Application
Apply organic zinc rich primer and a top coat in a neat, workmanlike manner, and in accordance with the Manufacturer's instruction and recommendations. Paint application shall be by brush. The color of the primer shall be such that a definite contrast between it and the color of the blasted steel is readily apparent. The color of the paint's top coat shall be concrete gray.

D Measurement
The department will measure Cleaning Concrete Girder Ends per linear foot of end section of concrete girder acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.01	Cleaning Concrete Girder Ends	LF

Payment is full compensation for removing loose, delaminated, or deteriorated concrete; preparing and cleaning exposed steel; furnishing and applying paint to exposed steel surfaces; cleaning up; and containing, collecting, and disposal of all waste materials.

39. Concrete Joint and Crack Cleaning, Item SPV.0090.02

A Description
This special provision describes removing any loose or spalled concrete and asphaltic patching, cleaning the joints and cracks, and filling with asphaltic surface, as the plans show and as hereinafter provided.

B Materials
Furnish asphaltic mixture as specified for asphaltic base under subsection 315.2 of the standard specifications.

C (Vacant)

D Measurement
The department will measure Concrete Joint and Crack Cleaning by the linear foot along longitudinal and transverse joints and cracks, acceptably completed.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.01	Concrete Joint and Crack Cleaning	LF

Payment is full compensation for removing and disposing of all loose or spalled concrete and asphaltic patching; for cleaning joints and cracks; for furnishing asphaltic material for filling the joints and cracks.
(NER11-0127)

40. Removing Sign Bridge S-5-37, Item SPV.0105.01

A Description
This special provision describes removing the signs, the 4-chord steel truss, the towers, and the footings at the location shown on the plans, as directed by the engineer, and as hereinafter provided.

B (Vacant)

C Construction

Disassemble all sign bridge components, including the signs, the 4-chord steel truss, the towers and the footings. Dispose of all components off the project site.

Remove the concrete footings in accordance with section 204 of the standard specifications.

D Measurement

The department will measure Removing Sign Bridge S-5-37 as a single lump sum unit for each sign bridge acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.01	Removing Sign Bridge S-5-37	LS

Payment is full compensation for disassembling, removing, and properly disposing of all materials.