**Special Provisions**

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**STSP’S Revised June 29, 2020**

**SPECIAL PROVISIONS**

1. General.

Perform the work under this construction contract for Project 108-12-70, USH 12 – Structures, STH 50 to STH 67, USH 12, Walworth County; Project 1080-12-72, Lake Geneva – Elkhorn Road, EB STH 50 to STH 67, USH 12, Walworth County; and Project 1080-12-73, Lake Geneva – Elkhorn Road, WB STH 50 to STH 67, USH 12, Walworth 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, 2021 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 (20200629)

1. Scope of Work.

The work under this contract shall consist of excavation, breaker run, base aggregate, milling, HMA pavement, bridge rehabilitation, bridge painting, thin polymer overlays, signing, pavement marking, beam guard, drainage structures, erosion control, restoration, traffic control, and all incidental items necessary to complete the work as shown on the plans and included in the proposal and contract.

104-005 (20090901)

1. 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. 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.

Be advised that there will be multiple mobilizations and/or remobilizations to complete construction operations, for example, such items as: traffic control, excavation, base aggregate, asphalt pavement, concrete work, milling and resurfacing, signing, pavement marking, and other incidental items related to staging. No additional payment will be made, by the department, for additional mobilizations.

Winter weather work, grading, 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.

There are locations noted on the erosion control plan where ground disturbance/grading will occur, but no silt fence is indicated to be placed. In lieu of silt fence, these areas are to be temporarily seeded and mulched within 48 hours of initial disturbance.

After completion of Stage 3 work, and with written approval by the engineer, subsequent stage work may proceed during the 2021 construction season. Any proposed work north of station 952+00 shall be coordinated with, and be subject to, the construction operations of adjacent project ID 1090-16-70.

When, in the fall of 2021, after completion of Stage 3 work or any additional approved work that is part of a subsequent stage, and weather conditions or seasonal restrictions preclude the satisfactory performance of further work under this contract, the engineer will, in writing, suspend operations until the spring of 2022. Construction operations shall be resumed in the spring of 2022 within ten days after the date on which a written order to do so has been issued by the engineer.

The contract time for completion is based on an expedited work schedule and may require extraordinary forces and equipment.

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

**Shoulder Work**

All crossover construction, full shoulder reconstruction, and asphalt shoulder replacement areas in stages 1, 4, 5, 6 and 7 are shown in the Traffic Control/Construction Staging plans as being completed without the use of concrete barrier temporary precast (CBTP) wall. To allow the shoulder reconstruction areas to be completed without using CBTP wall, the contractor is required to protect traffic on USH 12 from the pavement drop-off associated with reconstructing the shoulder. The contractor will be required to either: 1) only reconstruct a length of shoulder that can be fully removed and replaced to finished grade in a single day, or 2) use existing excavated shoulder material to provide a 3:1 or flatter slope adjacent to the pavement in areas where the shoulder has not been fully reconstructed by the end of a work day. All items of work required to meet this requirement are incidental to other items in the contract and not paid for separately. This would include any grading work associated with placing and removing material to provide a 3:1 or flatter slope adjacent to the pavement on a daily basis.

**Schedule of Operations**

The schedule of operations shall conform to the requirements described below unless modifications are approved in writing by the engineer. The schedule describes the major work areas and is not a complete list of activities that would occur during each stage of work. Refer to the plans for additional details.

Calendar Year 2021

* Stage 1 (Coordination will be required with project ID 3839-03-73 to the south on USH 12)
  + Rehabilitate the inside shoulders along EB and WB USH 12 in the vicinity of the existing southern traffic crossover.
  + Construct inside shoulder widening, install concrete barrier temporary precast, and install temporary crash cushions at STH 120 (B-64-33), CTH NN (B-64-35), Maclean Road (B-64-41), and the White River State Trail (B-64-43) along EB USH 12.
  + Construct the northern traffic crossover.
* Stage 2 (Coordination will be required with project ID 3839-03-73 to the south on USH 12)
  + Complete milling, base patching, paving all HMA layers, gravel shoulders, guardrail, and drainage improvements along WB USH 12 between the two traffic crossovers.
  + Complete milling, base patching, paving all HMA layers, gravel shoulders, and guardrail work on STH 120 Ramp D.
  + Construct inside shoulder widening, install concrete barrier temporary precast, and install temporary crash cushions at STH 120 (B-64-32), CTH NN (B-64-36), Maclean Road (B-64-42), and the White River State Trail (B-64-44) along WB USH 12.
  + Complete structure work along WB USH 12 at Como Creek (B-64-34), Como Creek (B-64-38), Jackson Creek (B-64-61), and a tributary to Jackson Creek (C-64-09).
  + Begin Sheridan Springs Road (B-64-31) and Springfield Road (B-64-39) bridge and roadway work.
  + Complete painting of eastern span of Sheridan Springs Road bridge (B-64-31) by means of shifting WB USH 12 to STH 120 off ramp traffic.
* Stage 3 (Coordination will be required with project ID 3839-03-73 to the south on USH 12)
  + Complete milling, base patching, paving all HMA layers, gravel shoulders, guardrail, and drainage improvements along EB USH 12 between the two traffic crossovers.
  + Complete milling, base patching, paving all HMA layers, and gravel shoulders on STH 120 Ramp B.
  + Complete structure work along EB USH 12 at Como Creek (B-64-34), Como Creek (B-64-37), Jackson Creek (B-64-61), and a tributary to Jackson Creek (C-64-09).
  + Complete Sheridan Springs Road (B-64-31) and Springfield Road (B-64-39) bridge and roadway work if not completed during stage 2.
  + At the conclusion of Stage 3 and before suspension of operations, complete temporary pavement markings along EB and WB USH 12 in anticipation of the winter shutdown.
  + Complete painting of western span of Sheridan Springs Road bridge (B-64-31) by means of shifting STH 120 to EB USH 12 on ramp traffic.

Calendar Year 2022

* Stage 4
  + Rehabilitate the inside shoulders along EB and WB USH 12 from the northern traffic crossover to the southern CD road connections and from the northern CD road connections to the north end of the project.
* Stage 5A
  + Begin milling, base patching, paving lower HMA layers, gravel shoulders, guardrail, and drainage improvements in the outside lanes in the vicinity of the southern traffic crossover, from the northern traffic crossover to the southern CD road connections, and from the northern CD road connections to the north end of the project.
  + Within the footprint of the CD roads, complete milling, base patching, paving all HMA layers, gravel shoulders, guardrail, and drainage improvements along EB and WB USH 12.
* Stage 5B
  + Continue milling, base patching, paving lower HMA layers, gravel shoulders, guardrail, and drainage improvements in the outside lanes in the vicinity of the southern traffic crossover, from the northern traffic crossover to the southern CD road connections, and from the northern CD road connections to the north end of the project.
  + Complete base patching, milling, paving all HMA layers, and gravel shoulders on STH 120 Ramps A and C, and STH 67 Ramps A, B, and E. Base patching shall be completed prior to milling on the ramps. Milling and paving of a ramp must occur during the same night closure. STH 120 Ramps A and C shall not be closed concurrently. STH 67 Ramps A, B, and E shall not be closed concurrently. Complete work during allowable service ramp closure hours. Each ramp shall be closed for a maximum of 5 nights.
* Stage 5C
  + Complete milling, base patching, paving lower HMA layers, gravel shoulders, guardrail, and drainage improvements in the outside lanes in the vicinity of the southern traffic crossover, from the northern traffic crossover to the southern CD road connections, and from the northern CD road connections to the north end of the project.
  + Complete milling, base patching, paving all HMA layers, gravel shoulders, guardrail, concrete barrier, and drainage improvements along the EB and WB CD roads. Base patching shall be completed prior to milling on the ramps. Milling and paving of a ramp must occur during the same night closure. Work on each CD road shall not proceed concurrently (i.e. do not close the EB CD road when the WB CD road is closed). Work shall be broken up into northern and southern segments on each CD road as shown on the detour plans. Complete all work during allowable system ramp closure hours. Each segment of each CD road shall be closed for a maximum of 14 nights.
* Stage 6
  + Complete milling, base patching, paving all HMA layers, gravel shoulders, guardrail, and drainage improvements in the inside lanes in the vicinity of the southern traffic crossover, from the northern traffic crossover to the southern CD road connections, and from the northern CD road connections to the north end of the project.
  + Complete CTH NN EB (B-64-185) and CTH NN WB (B-64-186) polymer overlays.
* Stage 7
  + Complete paving of the upper HMA layer and gravel shoulders in the outside lanes in the vicinity of the southern traffic crossover, from the northern traffic crossover to the southern CD road connections, and from the northern CD road connections to the north end of the project.

The following definitions apply to this contract for freeway work restrictions:

System Ramps Freeway to freeway ramps

Service Ramps Freeway to/from local road ramps

Nighttime Hours (Tom Boyke to verify timeframes below are appropriate)

9:00 PM – 5:30 AM (Sunday PM to Monday AM)

9:00 PM – 5:30 AM (Monday PM to Tuesday AM, Tuesday PM to Wednesday AM, Wednesday PM to Thursday AM, Thursday PM to Friday AM)

9:30 PM – 8:00 AM (Friday PM to Saturday AM, Saturday PM to Sunday AM)

**Interim and Final Completion of Work**

*Supplement standard spec 108.10 with the following:*

The department will not grant time extensions for the following:

- Severe weather as specified in standard spec 108.10.2.2.

- Labor disputes that are not industry wide.

- Delays in material deliveries.

sef-108-015 (20171004)

**Sheridan Springs Road**

Sheridan Springs Road may be closed as shown in the plans for a onetime period not to exceed 45 consecutive calendar days to complete the bridge deck overlay, beam guard work and paving. This closure must occur during stages 2 and/or 3.

**Springfield Road**

Springfield Road may be closed as shown in the plans for a onetime period not to exceed 45 consecutive calendar days to complete the bridge deck overlay, beam guard work and paving. This closure must occur during stages 2 and/or 3.

**General**

To prevent them from becoming displaced during the project, the contractor is responsible for securing any inlet grates that will be subject to traffic during construction operations. The method of securing the inlet grates can be by means of tack welding, mastic, or other means acceptable to the engineer. The contractor is also responsible for unsecuring all inlet grates prior to final completion of the project. Any costs associated with securing and unsecuring the grates is incidental to other items in the contract.

When engaged in roadway cleaning operation, 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.

Comply with all local ordinances that apply to local street work operations, including those pertaining to working during nighttime hours. Furnish any ordinance variance issued by the municipality or required permits to the engineer in writing three business days prior to performing such work.

Excavation material, if stockpiled, shall be done so on upland areas an adequate distance away from wetlands, floodplains, waterways, storm sewer inlets and culvert pipes, as determined by the engineer.

Temporary pavement markings shall be placed in the exact location and configuration where permanent pavement markings will be placed. Any water blasting required for pavement marking removal should be considered incidental to the temporary pavement marking items.

**Work Restrictions**

Do not close any ramps that are being used for an active detour route.

During the Walworth County Fair (late August/early September 2021 and late August/early September 2022), no ramp closures at CTH NN, IH 43 and STH 67 are allowed, no full freeway closures will be allowed, and project impacts will be communicated to the fair officials.

During the times listed in the ‘Holiday Work Restrictions’ article of these special provisions, no nighttime closures will be allowed for system ramps, service ramps or USH 12 roadways.

Long term ramp closures shown in the plans shall be posted 7 calendar days in advance of their closure with dates and times of closure.

Follow plan details for closures. Restrictions and/or closures beyond that shown in the traffic control plans are subject to lane rental fee assessments and must be approved by the engineer. If plan details are not provided in the traffic control plans, furnish plans for review by the engineer.

**Interim Completion of Work on Sheridan Springs Road**

During stage 2 and/or stage 3, complete all work as shown in the plans on Sheridan Springs Road to restore traffic on the roadway within 45 calendar days of the closure date.

If the contractor does not complete all of the work to restore traffic on Sheridan Springs Road within 45 calendar days of the closure date, the Department will assess the contractor $500 in interim liquidated damages for each calendar day that the roadway remains closed after 12:01 AM on the 46th calendar after the closure begins. An entire calendar day will be charged for any period of time within a calendar day that the roadway remains closed as of 12:01 AM on the 46th day the roadway is not open.

If contract time expires prior to completing all work specified in the contract, additional liquidated damages will be affixed according to standard spec 108.11.

**Interim Completion of Work on Springfield Road**

During stage 2 and/or stage 3, complete all work as shown in the plans on Springfield Road to restore traffic on the roadway within 45 calendar days of the closure date.

If the contractor does not complete all of the work to restore traffic on Springfield Road within 45 calendar days of the closure date, the Department will assess the contractor $500 in interim liquidated damages for each calendar day that the roadway remains closed after 12:01 AM on the 46th calendar after the closure begins. An entire calendar day will be charged for any period of time within a calendar day that the roadway remains closed as of 12:01 AM on the 46th day the roadway is not open.

If contract time expires prior to completing all work specified in the contract, additional liquidated damages will be affixed according to standard spec 108.11.

**Interim Completion of Work on USH 12 – Calendar Year 2021**

Complete all work as shown in the plans on USH 12 through stage 3 and restore traffic on the roadways by November 20, 2021.

If the contractor does not complete all work through stage 3 as shown in the plans by November 20, 2021, the Department will assess the contractor $X,XXX in interim liquidated damages for each calendar day that work through stage 3 remains incomplete after 12:01 AM on November 21, 2021. An entire calendar day will be charged for any period of time within a calendar day that work through stage 3 remains incomplete as of 12:01 AM on November 21, 2021.

If contract time expires prior to completing all work specified in the contract, additional liquidated damages will be affixed according to standard spec 108.11.

Fish Spawning

There shall be no instream disturbance of the White River, Como Creek, Jackson Creek, and tributaries to Jackson Creek, as a result of construction activity under or for this contract, from March 1st to June 1st, both dates inclusive, in order to avoid adverse impacts upon the spawning of various fish species.

Any change to this limitation will require submitting a written request by the contractor to the engineer, subsequent review, and concurrence by the Department of Natural Resources in the request, and final approval by the engineer. The approval will include all conditions to the request as mutually agreed upon by WisDOT and DNR.

0036 (20090901)

Migratory Birds

Swallow and other migratory birds’ nests have been observed on or under the existing structures. 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 Structure Repainting Recycled Abrasive for B-64-31; Removing Old Structure for B-64-34; Removing Old Structure Over Waterway with Minimal Debris for B-64-37; Removing Old Structure Over Waterway with Minimal Debris for B-64-38; Structure Repainting Recycled Abrasive for B-64-39; and Concrete Surface Repair B-64-61 and C-64-09.

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).

In accordance to the final 4(d) rule issued for the NLEB, the department has determined that the proposed activity may affect but will not result in prohibited take of the NLEB. The activity involves tree removal but will not occur within 0.25 miles of a known hibernacula, nor will the activity remove a known maternity roost tree or any other tree within 150 feet of a known maternity roost tree.

If additional trees need to be removed, no Clearing shall occur without prior approval from the engineer, following coordination with the WisDOT REC. Additional tree removal beyond the area originally specified will require consultation with the United States Fish and Wildlife Service (USFWS) and may require a bat presence/absence survey. Notify the engineer if additional Clearing cannot be avoided to begin coordination with the WisDOT REC. The WisDOT REC will initiate consultation with the USFWS and determine if a survey is necessary.

Submit a schedule and description of Clearing operations with the ECIP 14 days prior to any Clearing operations. The department will determine, based on schedule and scope of work, what additional erosion control measures shall be implemented prior to the start of Clearing operations, and list those additional measures in the ECIP.

1. Traffic.

Coordinate traffic requirements under this contract with other ongoing Department and local community construction projects. Refer to the ‘Other Contracts’ article in these special provisions for a list of known projects. The contractor for this project is responsible for coordinating with other contractors for traffic control implementation.

Provide the Walworth County Sheriff's Department, the Wisconsin State Patrol, the City of Lake Geneva Police Department, the City of Elkhorn Police Department and the project engineer a current telephone number with which the contractor or his representative can be contacted during non-working hours in the event a safety hazard develops.

Where lane closures have been permitted by the engineer in conjunction with the contractor’s work schedule, make a continuous effort to complete the work with said lane closures in a timely manner.

Follow plan details for closures. If plan details are not provided in the traffic control plan, or for any traffic control change requests, furnish plans for review by the engineer a minimum of two weeks prior to the implementation so that approval, or disapproval, is obtained at least three days prior to roadway, lane or ramp closures.

Do not, at any time, conduct construction operations in the median area and adjacent outside shoulder area of the freeway at the same time without permission of the engineer.

Do not park or store equipment, contractor’s and personal vehicles or construction materials within the clear zone or on any roadway carrying traffic during working and non-working hours except at locations and periods of time approved by the engineer.

Do not permit construction or personnel equipment or vehicles to directly cross the live traffic lanes of USH 12. Yield to all through traffic at all locations. Equip all vehicles or equipment operating in the live traffic lanes with a hazard identification beam (flashing yellow signal light) that is visible from 360 degrees. Operate the flashing yellow beam only when merging or exiting live traffic lanes or when parked or operating on shoulders, except when parked behind barrier wall. Do not park personal vehicles within the access control limits of the freeway.

Do not allow traffic on milled pavement at any time.

On all ramps and CD road segments, base patching shall be completed prior to asphalt milling.

On all ramps and CD road segments, milling and paving must occur during the same night closure.

Obtain acceptance from the engineer regarding the wording of all messages on portable changeable message signs prior to placing the message.

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

Do not disturb, remove, or obliterate any traffic control signs, advisory signs, sand barrel array, shoulder delineators or beam guard in place along the traveled roadways without the approval of the engineer.

Ensure that Flagging operations conform to standard spec 104.6.1(4) and chapter 6E of the WMUTCD.

Full Freeway Closures (May also be needed if 1 or 2 culverts need to be installed under EB or WB USH 12 for drainage associated with the north traffic crossover construction)

Full Freeway Closure Hours (Tom Boyke to verify timeframes below are appropriate)

* 10:00 PM – 5:00 AM (Sunday PM to Monday AM)
* 9:00 PM – 5:00 AM (Monday PM to Tuesday AM, Tuesday PM to Wednesday AM, Wednesday PM to Thursday AM, Thursday PM to Friday AM)
* 10:00 PM – 7:00 AM (Friday PM to Saturday AM, Saturday PM to Sunday AM)

Full closure and detouring of freeway roads will be restricted to the Full Freeway Closure Hours. The full freeway closures are only intended for two conditions: To allow for storm sewer/culvert pipe installation across the USH 12 EB/WB travel lanes at the northern traffic crossover, and in combination with STH 67 Ramp B closure. Full freeway closures will only be allowed in one direction at a time. Provide signed detour routes, as the plans show, which are fully open and free of construction during all full freeway closures. Place portable changeable message at least 3 business days prior to the closures occurring. Obtain prior acceptance from the engineer and the WisDOT Traffic Management Center, for Full Freeway Closures

**System Ramp Closure Hours** (Tom Boyke to verify timeframes below are appropriate)

* 9:00 PM - 6:00 AM (Sunday PM thru Friday AM)
* 10:00 PM - 8:00 AM (Friday PM thru Sunday AM)

Full closure of system ramps, including CD roadways, will be restricted to the Nighttime System Ramp Closure Hours. The system ramps may be closed to facilitate the saw cutting, base patching, milling, paving and gravel shouldering operations to be performed on the system ramps as noted in the plans. Signed detour routes shall be provided for overnight system ramp closures. Closures shall be posted three business days in advance of their closure with dates and times of closure. Place portable changeable message signs, traffic control signs, or fixed message signs as the plans show, on or in advance of the ramp, to advise traffic about the closure of the specific ramp. Close leading lanes and dedicated turning lanes to freeway entrance ramps on side streets during the closure of freeway entrance ramps. Do not close a system that is part of a detour route for another system ramp. Each service ramp, with the exception of the long-term ramp closures, shall be closed for a maximum of 5 nights.

Long-term Service Ramp Closures

Close STH 120 Ramp D for the duration of Stage 2 to complete milling, base patching, paving all HMA layers, gravel shoulders, and guardrail work. Close STH 120 Ramp B for the duration of Stage 3 to complete milling, base patching, paving all HMA layers, and gravel shoulders. Provide a signed detour route on STH 120, Sheridan Springs Rd/Edwards Blvd, and STH 50. Closures shall be posted 7 calendar days in advance of their closure with dates and times of closure. Close leading lanes and dedicated turning lanes to freeway entrance ramps on side streets during the closure of freeway entrance ramps.

**Nighttime Service Ramp Closure Hours** (Tom Boyke to verify timeframes below are appropriate)

* 9:00 PM - 6:00 AM (Sunday PM thru Friday AM)
* 10:00 PM - 8:00 AM (Friday PM thru Sunday AM)

Full closure of service ramps will be restricted to the Nighttime Service Ramp Closure Hours. The service ramps may be closed to facilitate the saw cutting, base patching, milling, paving and gravel shouldering operations to be performed on the service ramps as noted in the plans. Signed detour routes do not need to be provided for overnight service ramp closures. Closures shall be posted three business days in advance of their closure with dates and times of closure. Place a portable changeable message sign before the previous open exit ramp to advise traffic about the closure of the specific ramp. Alternate service ramp closures so that no two consecutive entrance or exit ramps are closed at the same time and that ramps are open in the opposite direction at the same interchange (i.e., do not close the eastbound entrance/exit ramps and the westbound entrance/exit ramps at the same interchange on the same night). Close leading lanes and dedicated turning lanes to freeway entrance ramps on side streets during the closure of freeway entrance ramps. Each service ramp and the accompanying segment of CD road shall be closed for a maximum of 14 nights.

**Rolling Closure**

Short term freeway mainline rolling closures may be allowed for a maximum of 15 minutes for equipment moves across the road, or other required work as determined by the engineer. The department will allow short term rolling closures only between 2 AM and 4 AM, and they may only be performed by freeway law enforcement.

Obtain approval from the engineer before coordinating these closures with freeway law enforcement. Coordinate 14 calendar days before closure. Present the scheduled time for the short term rolling closure at the weekly traffic meeting a minimum of one week before the closure.

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 feet)** | **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 feet)** | **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.

Temporary Regulatory Speed Limit Reduction

During engineer-approved regulatory speed limit reductions, install temporary speed limit signs on the inside and outside shoulders of divided roadways to enhance visibility. On two lane two way roadways, install temporary speed limit signs on shoulders. When construction activities impede the location of a post-mounted regulatory speed limit sign, relocate the sign for maximum visibility to motorists. If work last less than 7 days, mount the regulatory speed limit sign on a portable sign support.

Post temporary regulatory speed limit signs in work zone only during continuous worker activity. During periods of no work activity or when the traffic controls are removed from the roadway, cover or remove the temporary speed limit signs.

Coordinate with Regional Traffic Section to identify the construction stages that have approved temporary regulatory speed zones documented in a Temporary Speed Zone Declaration. Primary contact phone number: (262) 822-5947, secondary contact number: (262) 548-8728.

Contact the Region Traffic Section at least 14-calendar days before installing the temporary speed zone. After installation of the temporary speed zone is complete, notify the Regional Traffic Section with field locations of temporary speed zones.

1. 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

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:

- Nighttime USH 12 Full Closure – $1,000 per closure, per direction of travel, per hour broken into 15 minute increments

- Nighttime System Ramp Closure – $1,000 per individual ramp closure, per hour broken into 15 minute increments

- Nighttime Service Ramp Closure – $500 per individual ramp closure, per hour broken into 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-108-070 (20161130)

1. Traffic Meetings and Traffic Control Scheduling.

Every Wednesday by 9:00 AM, submit a detailed proposed 2-week look-ahead traffic closure schedule to the engineer. Type the detailed proposed 2-week look-ahead closure schedule into an excel spreadsheet provided by the engineer. Enter information such as closure dates, duration, work causing the closure and detours to be used. Also enter information such as ongoing long-term closures, emergency contacts and general 2-month look-ahead closure information into the excel spreadsheet.

Meet with the engineer at 10:00 AM, or as directed by the engineer, every Wednesday at the field office to discuss and answer questions on the proposed schedule. Edit, delete, and add closures to the detailed proposed 2-week look-ahead schedule, as directed by the engineer, so that proposed closures meet specification requirements. Other edits, deletions or additions unrelated to meeting specification requirements may also be agreed upon between the contractor and engineer during the meeting.

Every Wednesday at 2:00 PM, or as scheduled by the engineer, attend a weekly traffic meeting. The meeting will bring local agencies, project stakeholders, owner managers, owner engineers, contractors, document control and construction engineering personnel together to discuss traffic staging, closures and general impacts. Upon obtaining feedback from the meeting attendees, edit, delete and add information to the detailed 2-week look-ahead closure schedule, as needed. Submit the revised 2-week look-ahead to the engineer.

Obtain approval from the engineer for any mid-week changes to the closure schedule. Revise the 2-week look-ahead as required and obtain engineer approval.

The contractor’s weekly schedule of operations for all actual and anticipated work shall include roadway, lane and ramp closures for the upcoming week beginning on Sunday at 12:01 AM and ending on the following Saturday at 11:59 PM. This information will be reviewed by the Department. Modifications to this schedule will be accepted until no later than noon on Thursdays.

1. Holiday Work Restrictions.

Do not perform work on, nor haul materials of any kind along or across any portion of the highway carrying USH 12 or USH 12 ramp 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:

- From noon Friday, May 28, 2021 to 6:00 AM Tuesday, June 1, 2021 for Memorial Day

- From noon Friday, July 2, 2021 to 6:00 AM Tuesday, July 6, 2021 for Independence Day

- From noon Friday, September 3, 2021 to 6:00 AM Tuesday, September 7, 2021 for Labor Day

- From noon Wednesday, November 24, 2021 to 6:00 AM Monday, November 29, 2021 for Thanksgiving

- From noon Friday, May 27, 2022 to 6:00 AM Tuesday, May 31, 2022 for Memorial Day

- From noon Friday, July 1, 2022 to 6:00 AM Tuesday, July 5, 2022 for Independence Day

- From noon Friday, September 2, 2022 to 6:00 AM Tuesday, September 6, 2022 for Labor Day

stp-107-005 (20181119)

1. Utilities.

This contract comes under the provision of Administrative Rule Trans 220.

stp-107-065 (20080501)

There are underground and overhead utility facilities located within the project limits. Utility adjustments may be required for this construction project. Coordinate construction activities with a call to Digger’s Hotline or a direct call to the utilities that have facilities in the area as required per statutes. Use caution to ensure the integrity of underground and overhead facilities.

Bidders are advised to contact each utility company listed in the plans prior to preparing their bids, to obtain current information on the status of any utility within the project work limits.

Known utilities on the project are as follows:

**Alliant Energy** has overhead and underground facilities within the construction limits. The existing facilities are located as follows:

* An overhead crossing of USH 12 along the south side of Sheridan Springs Road
* An underground crossing of USH 12 along the east side of CTH NN (south)
* Underground along the west side of USH 12 between STH 50 and Sheridan Springs Road
* Overhead along the east side of USH 12 between Sheridan Springs Road and STH 120
* Overhead along the west side of USH 12 between CTH NN (south) and Park Drive

No conflicts are anticipated.

The Alliant Energy contact is Mary Montgomery at (319) 786-4768 or [marymontgomery@alliantenergy.com](mailto:marymontgomery@alliantenergy.com).

**AT&T Mobility** has overhead facilities within the construction limits. The existing facilities are located as follows:

* A cell tower just north of CTH NN/south of Stuart Road and west of USH 12, approximately station 994+00

No conflicts are anticipated.

The AT&T Mobility contact is Ifey Onua at (847) 332-3471 or [lo1826@att.com](mailto:lo1826@att.com).

**AT&T Wisconsin** has overhead and underground facilities within the construction limits. The existing facilities are located as follows:

* Underground along the west side of USH 12 from Sheridan Springs Road to approximately station 604+00
* Underground along the north side of Sheridan Springs Road west of USH 12
* Underground along the south side of Sheridan Springs road from Edwards Boulevard to approximately station 53+25, where the line transitions to overhead. This includes two underground lines that cross USH 12 at approximately station 608+00.
* Underground crossing of Sheridan Springs Road at approximately station 47+90
* Underground crossings of USH 12 along the north side of STH 120
* Underground crossings of USH 12 along both sides of CTH NN (south)
* Underground along the south side of USH 12 for about 500 feet west of CTH NN (south)
* Underground along the south side of Springfield Road, but not crossing USH 12

No conflicts are anticipated. There are two locations the contractor will need to pay special attention to – the underground crossing of Sheridan Springs Road at approximately station 47+90 and the underground crossings of USH 12 at approximately station 608+00. At both of these locations there is existing beam guard that will be removed and replaced. The existing underground AT&T lines do not conflict with the existing beam guard posts. The contractor must layout the new beam guard posts and request a utility locate to mark the existing lines to determine if a conflict would result. If the proposed locations cannot be adjusted to avoid a conflict, AT&T Wisconsin will adjust the underground line or lines to allow for the posts to be installed.

The AT&T Wisconsin contact is Mike VanBoven at (262) 636-0514 or [mv3658@att.com](mailto:mv3658@att.com).

**ATC Management** has overhead facilities within the construction limits. The existing facilities are located as follows:

* An overhead crossing of USH 12, east of CTH NN (south), approximately station 676+00
* An overhead crossing of USH 12 east of CTH NN (south), approximately station 694+00
* Overhead along the east side of USH 12 from the start of the project to east of CTH NN (south)
* Overhead along the south side of USH 12 from east of CTH NN (south) and Park Drive

No conflicts are anticipated.

The ATC Management contact is Tony Marciniak at (262) 506-6814 or [tmarciniak@atcllc.com](mailto:tmarciniak@atcllc.com).

**Charter Communications** has overhead and underground facilities within the construction limits. The existing facilities are located as follows:

* Underground crossing of USH 12 along the south side of Sheridan Springs Road
* Underground crossing of USH 12 along the east side of CTH NN (south)
* Overhead crossing of USH 12 along the south side of Springfield Road
* Underground crossing of USH 12 along the north side of Sporleder Road
* Underground crossing of USH 12 along the south side of STH 11
* Overhead along the south side of USH 12 from CTH NN (south) to Park Drive

The locations below may be in conflict with this construction project:

* Underground along Sheridan Springs Road due to the beam guard replacement
* Overhead along the south side of Springfield Road due to the beam guard replacement
* Underground at approximately station 608+00 in USH 12 median due to placement of bull nose beam guard at bridge pier
* Underground along the north side of Sporleder Road due to northern crossover construction and EBS excavation

The Charter Communications contact is Cody Thompson at (608) 921-8282 or [cody.thompson@charter.com](mailto:cody.thompson@charter.com).

**City of Elkhorn – Electric** has overhead and underground facilities within the construction limits. The existing facilities are located as follows:

* Underground crossing of USH 12 along the north side of the White River Trail
* Overhead crossing of USH 12 along the north side of Sporleder Road
* Overhead crossing of USH 12 along the south side of STH 11
* Underground along the west side of USH 12 from the White River State Trail to Sporleder Road
* Overhead along the west side of USH 12 from STH 11 to station 1080+00

No conflicts are anticipated.

The City of Elkhorn – Electric contact is John Murphy at (262) 741-3138 or [jmurphy@cityofelkhorn.org](mailto:jmurphy@cityofelkhorn.org).

**City of Elkhorn – Sewer** has underground facilities within the construction limits. The existing facilities are located as follows:

* A crossing of USH 12 at approximately station 1080+00

No conflicts are anticipated.

The City of Elkhorn – Sewer contact is Matt Lindstrom at (262) 723-2223 or [mlindstrom@cityofelkhorn.org](mailto:mlindstrom@cityofelkhorn.org).

**City of Elkhorn – Water** has underground facilities within the construction limits. The existing facilities are located as follows:

* A crossing of USH 12 at Sporleder Road
* A crossing of USH 12 along the north side of CTH NN
* A crossing of USH 12 at approximately station 1080+00
* A crossing of USH 12 at approximately station 1102+00
* Along the east side of the USH 12 WB off ramp to STH 67

The locations below may be in conflict with this construction project:

* At Sporleder Road due to northern crossover construction and EBS excavation

The City of Elkhorn – Water contact is John Murphy at (262) 741-3138 or [jmurphy@cityofelkhorn.org](mailto:jmurphy@cityofelkhorn.org).

**City of Lake Geneva – Sanitary Sewer** has underground facilities within the construction limits. The existing facilities are located as follows:

* Along the west side of USH 12 from Sheridan Springs Road to STH 50
* A crossing of USH 12 in the median of STH 50

No conflicts are anticipated.

The City of Lake Geneva – Water contact is Josh Gajewski at (262) 248-2311, ext 6115, or [jgajewski@lgutilities.org](mailto:jgajewski@lgutilities.org).

**City of Lake Geneva – Water** has underground facilities within the construction limits. The existing facilities are located as follows:

* Along the west side of USH 12 from the south project limit to just south of Sheridan Springs Road
* A crossing of USH 12 just south of Sheridan Springs Road

No conflicts are anticipated.

The City of Lake Geneva – Water contact is Josh Gajewski at (262) 248-2311, ext 6115, or [jgajewski@lgutilities.org](mailto:jgajewski@lgutilities.org).

**Everstream** has underground facilities within the construction limits. The existing facilities are located as follows:

* Underground crossing of USH 12 at CTH NN (south)

No conflicts are anticipated.

The Everstream contact is Shad Garcia at (414) 409-1708 or [sgarcia@everstream.net](mailto:sgarcia@everstream.net).

**Midwest Fiber Networks LLC** has underground facilities within the construction limits. The existing facilities are located as follows:

* Underground crossing of USH 12 at Sporleder Road

The locations below may be in conflict with this construction project:

* Underground at Sporleder Road due to northern crossover construction and EBS excavation

The Midwest Fiber Networks LLC contact is Richard Trgovec at (414) 459-3554 or [rtrgovec@midwestfibernetworks.com](mailto:rtrgovec@midwestfibernetworks.com).

**State Long Distance Telcom** has overhead and underground facilities within the construction limits. The existing facilities are located as follows:

* Underground crossing of USH 12 along the north side of MacLean Road
* Underground crossing of USH 12 along the south side of Sporleder Road
* Underground crossing of USH 12along the north side of Stuart Drive
* Underground crossing of USH 12 along the south side of STH 11
* Underground along the west side of USH 12 from STH 11 to approximately station 1051+00

The locations below may be in conflict with this construction project:

* Underground at Sporleder Road due to northern crossover construction and EBS excavation

The State Long Distance Telcom contact is Erik Borgen at (608) 664-4438 or [erik.borgen@tdstelecom.com](mailto:erik.borgen@tdstelecom.com).

**WALCOMET** has underground facilities within the construction limits. The existing facilities are located as follows:

* Crossing of USH 12 north of MacLean Road, at approximately station 925+00

No conflicts are anticipated.

The WALCOMET contact is Neal Kolb at (262) 728-4140 or [nkolb@walcomet.com](mailto:nkolb@walcomet.com).

**WE Energies – Electric** has overhead and underground facilities within the construction limits. The existing facilities are located as follows:

* Overhead crossing of USH 12 along the south side of Springfield Road
* Overhead crossing of USH 12 along the west side of Como Road
* Underground crossing of USH 12 along the north side of MacLean Road
* Overhead crossing of USH 12 along the north side of Stuart Drive

No conflicts are anticipated.

The WE Energies – Electric contact can be reached at (414) 221-2738 or [We-Utility-relocations@we-energies.com](mailto:We-Utility-relocations@we-energies.com).

**WE Energies – Gas** has underground facilities within the construction limits. The existing facilities are located as follows:

* Two crossings of USH 12 just north of Sheridan Springs Road
* Crossing of USH 12 along the north side of Sporleder Road
* Crossing of USH 12 along the north side of STH 11

No conflicts are anticipated.

The WE Energies – Gas contact can be reached at (414) 221-2738 or [We-Utility-relocations@we-energies.com](mailto:We-Utility-relocations@we-energies.com).

1. Other Contracts

Coordinate work in accordance to subsection 105.5 of the standard specifications.

Modifications to the traffic control plan may be required by the engineer to be safe and consistent with adjacent work by others.

It is expected that routine maintenance by the city and county personnel may be required at certain times concurrently with the work being done under this contract.

The following projects are anticipated to be under construction within the time period of this contract. Coordinate activities, detours, work zone traffic control, roadway and lane closures, and other work items as required with these other contracts.

* Project ID 1090-16-70, IH 43, Rock County Line to USH 12. This is a structure and pavement rehabilitation project scheduled to occur during the 2020 and 2021 construction seasons. The department construction contact is Brian Boothby, (414) 416-9536, [Brian.Boothby@dot.wi.gov](mailto:Brian.Boothby@dot.wi.gov)
* Project ID 3839-03-73, USH 12, Illinois State Line to STH 50. This is a structure rehabilitation project scheduled to occur during the 2021 construction season. The department construction contact is Amy Taetsch, (414) 750-4708, [Amy.Taetsch@dot.wi.gov](mailto:Amy.Taetsch@dot.wi.gov)

Additional projects may be under construction concurrently with the work items under this contract. Inquire with the Department for any additional projects anticipated to be under construction in the project area or along any proposed haul roads. Walworth County should be contacted as well to learn if they have any projects in the area that may conflict with the USH 12 rehabilitation traffic control and staging.

1. 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 Brenda Ruenger at (262) 548-6709.

stp-107-054 (20080901)

1. Environmental Protection, Aquatic Exotic Species Control.

Exotic invasive organisms such as VHS, zebra mussels, purple loosestrife, and Eurasian water milfoil are becoming more prolific in Wisconsin and pose adverse effects to waters of the state. Wisconsin State Statutes 30.07, "Transportation of Aquatic Plants and Animals; Placement of Objects in Navigable Waters", details the state law that requires the removal of aquatic plants and zebra mussels each time equipment is put into state waters.

At construction sites that involve navigable water or wetlands, use the follow cleaning procedures to minimize the chance of exotic invasive species infestation. Use these procedures for all equipment that comes in contact with waters of the state and/or infested water or potentially infested water in other states.

Ensure that all equipment that has been in contact with waters of the state, or with infested or potentially infested waters, has been decontaminated for aquatic plant materials and zebra mussels before being used in other waters of the state. Before using equipment on this project, thoroughly disinfect all equipment that has come into contact with potentially infested waters. Guidelines from the Wisconsin Department of Natural Resources for disinfection are available at:

<http://dnr.wi.gov/topic/invasives/disinfection.html>

Use the following inspection and removal procedures:

1. Before leaving the contaminated site, wash machinery and ensure that the machinery is free of all soil and other substances that could possibly contain exotic invasive species;

2. Drain all water from boats, trailers, bilges, live wells, coolers, bait buckets, engine compartments, and any other area where water may be trapped;

3. Inspect boat hulls, propellers, trailers and other surfaces. Scrape off any attached mussels, remove any aquatic plant materials (fragments, stems, leaves, seeds, or roots), and dispose of removed mussels and plant materials in a garbage can before leaving the area or invested waters; and

4. Disinfect your boat, equipment and gear by either:

4.1. Washing with ~212 F water (steam clean), or

4.2. Drying thoroughly for five days after cleaning with soap and water and/or high pressure water, or

4.3. Disinfecting with either 200 ppm (0.5 oz per gallon or 1 Tablespoon per gallon) Chlorine for 10‑minute contact time or 1:100 solution (38 grams per gallon) of Virkon Aquatic for 20- to 30-minute contact time. Note: Virkon is not registered to kill zebra mussel veligers nor invertebrates like spiny water flea. Therefore, this disinfect should be used in conjunction with a hot water (>104º F) application.

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

stp-107-055 (20130615)

1. Information to Bidders, WPDES General Construction Storm Water Discharge Permit.

The department has obtained coverage through the Wisconsin Department of Natural Resources to discharge storm water associated with land disturbing construction activities of this contract under the Wisconsin Pollutant Discharge Elimination System General Construction Storm Water Discharge Permit (WPDES Permit No. WI-S066796-1). A certificate of permit coverage is available from the regional office by contacting Amy Taetsch at (414) 750-4708. Post the permit in a conspicuous place at the construction site.

stp-107-056 (20180628)

1. Erosion Control Structures.

Within three calendar days after completing the excavation for a substructure unit, place riprap or other permanent erosion control items required by the contract or deemed necessary by the engineer around the unit at a minimum 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 the engineer directs.

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.

stp-107-070 (20191121)

1. Erosion Control

*Add the following to standard spec 107.20 as paragraphs nine through fifteen:*

(9) Erosion control best management practices (BMP's) in the plans are at suggested locations. The actual locations shall be determined by the contractor's ECIP and by the engineer. Include each dewatering (mechanical pumping) operation in the ECIP submittal. The ECIP shall supplement information the plans show and not reproduce it. The ECIP shall identify how to implement the project's erosion control plan. ECIP shall demonstrate timely and diligently staged operations, continuing all construction operations methodically from the initial removals and topsoil stripping operations through the subsequent grading, paving, and re-application of topsoil to minimize the exposure to possible erosion.

(10) Provide the ECIP 14 days before the pre-construction conference. Provide 1 copy of the ECIP to the department and 1 copy of the ECIP to the WDNR Liaison Craig Webster (262-574-2141 or [Craig.Webster@wisconsin.gov](mailto:Craig.Webster@wisconsin.gov)). Do not implement the ECIP until department approval, and perform all work conforming to the approved ECIP.

(11) Maintain Erosion Control BMP's until permanent vegetation is established or until the engineer determines that the BMP is no longer required.

(12) Stockpile excess materials or spoils on upland areas away from wetlands, floodplains, and waterways. Install perimeter silt fence protection around stockpiles within a timeframe acceptable to the engineer. If stockpiled materials will be left for more than 14 days, install temporary seed and mulch or other temporary erosion control measures the engineer orders.

(13) Re-apply topsoil on graded areas, as designated by the engineer, within a timeframe acceptable to the engineer after grading is completed within those areas. Seed, fertilize, and mulch/erosion mat top-soiled areas, as designated by the engineer, within 5 days after placement of topsoil. If graded areas are left not completed and exposed for more than 14 days, seed those areas with temporary seed and mulch.

(14) Do not allow excavation for; structures, utilities, grading, maintaining drainage that requires dewatering(mechanical pumping) of water containing sediments (sand, silt, and clay particles) to leave the work site or discharge to a storm water conveyance system without sediment removal treatment. Before each dewatering operation, submit to the department a separate ECIP amendment describing in words and pictorial format an appropriate BMP for sediment removal, conforming to WisDNR Storm Water Construction Technical Standard, Code 1061, Dewatering. Include reasoning, location, and schedule duration proposed for each operation. Per Code 1061, include all selection criteria: site assessment, dewatering practice selection, calculations, plans, specifications, operations, maintenance, and location of proposed treated water discharge. Provide a stabilized discharge area. If directing discharge towards or into an inlet structure, provide additional inlet protection for back-up protection.

(15) Dewatering is incidental.

sef-107-010 (20180104)

Maintain drainage at and through worksite during construction conforming to standard specs 107.22, 204, 205 and 520. Use existing storm sewers, existing culvert pipes, existing drainage channels, temporary culvert pipes, or temporary drainage channels to maintain existing surface and pipe drainage. Pumps may be required to drain the surface, pipe, and structure discharges during construction. Costs for furnishing, operating, and maintaining the pumps is considered incidental to the project.

When performing saw-cutting operations on any concrete pavement, concrete slurry generated shall be squeegeed off to the gravel shoulder and not allowed to remain on the driving lanes, into ditches or wetlands.

There are locations noted on the erosion control plan where ground disturbance/grading will occur, but no silt fence is indicated to be placed. In lieu of silt fence, these areas are to be temporarily seeded and mulched within 48 hours of initial disturbance.

1. Environmental Protection for Culvert Work.

*Supplement standard spec 107.18 with the following:*

There are numerous existing culvert pipes requiring cleaning and/or work on the endwalls that are within or adjacent to wetland areas. Limit wetland disturbance as much as possible unless some ditch grading is required. Equipment used in this area shall exert low ground pressure (no wheeled vehicles) or be done by hand. Use silt fence to protect adjacent wetland areas from siltation and disturbance.

The contractor will be allowed to isolate the work area with bypass pumping for one working day to clean each culvert.

Protect wetlands against erosion and sedimentation during the construction phase of the project.

Do not place any fills in waterways or wetlands.

Properly dispose of all sediment removed from the cleaning process at a site that is approved by the engineer.

Divert flow in any drainage ditches that have twin culverts. Use rock bags to isolate the flow into the second culvert while cleaning the first. If site dewatering is required, pump the sediment-laden water into an adequately sized sediment basin prior to discharging it to a ditch, wetland or waterway.

Utilize all best management practices for erosion control for this work as directed by the engineer.

Restore any disturbed area around the work area with specified landscaping as directed by the engineer.

**Best Management Practices**

Each culvert location should be classified based on the required level of environmental protection. As part of the erosion control bid items, the contractor shall include protection as described below. BMP’s shown on the erosion control plan sheets are a minimum level of protection. Additional guidance is below:

**Type 1: For culverts that have water running or standing in them during dry periods**

* Provide a rock bag dam at both the upstream and the downstream end of the culvert
* Place silt fence or other erosion control BMP’s to protect undisturbed areas
* Dewater work area
* Clean culvert of sediment. Limit cleaning operation to a single working day.
* Complete endwall repairs
* Reshape and restore all disturbed areas adjacent to culvert with topsoil, seed and erosion mat

**Type 2: For culverts that are next to wetland areas without standing water or water in the culvert**

* Place silt fence or other erosion control BMP’s to protect undisturbed area
* Clean culvert of sediment. Limit cleaning operation to a single working day.
* Complete endwall repairs
* Reshape and restore all disturbed areas adjacent to culvert with topsoil, seed and erosion mat

**Type 3: For culverts not near water or wetlands**

* Clean culvert of sediment. Limit cleaning operation to a single working day.
* Complete endwall repairs
* Reshape and restore all disturbed areas adjacent to culvert with topsoil, seed and erosion mat

**Dewatering**

Perform all endwall repair work in a fully dewatered ditch or waterway.

In instances where topography or space does not allow for passive diversion of water, use pumps and pipes to divert the water. The contractor shall provide the pumps required for flow conditions as well as have available additional pumps in the event the flow increases.

All pumps shall be supervised during hours of pumping.

Provide pumps that are in good operating order and free of leaks. Pumps that are leaking fuel, lubricants or other material shall be removed immediately from the work area and then repaired or replaced as necessary.

During the dewatering operation, provide adequate protection from erosion at the discharge area. All materials placed to protect the discharge outfalls are temporary in nature and shall be removed from the project area upon completion of the dewatering process.

Dewatering is incidental to the project.

**Pipe Cleaning**

Pipes shall be cleaned according to standard spec 520 and special provision Cleaning Culvert Pipes.

All solids removed from the sewers must be completely removed from the storm sewer system and hauled off the project for disposal. Silts resulting from any flushing or jetting operation must be prevented from escaping into sewers or waterways.

1. Notice to Contractor – Airport Operating Restrictions

Fill out the FAA Notice Criteria tool for all permanent structure (bridge, light pole, etc.) or equipment (crane, etc.) used during construction.

<https://oeaaa.faa.gov/oeaaa/external/portal.jsp>

If required by the Notice Criteria tool, and for all crane or construction equipment higher than 200 feet above the ground, submit completed form 7460-1 (Notice of Proposed Construction or Alteration) to The Federal Aviation Administration (FAA) at least 45 days before starting construction.

Contact Levi Eastlick (608-267-5018), WisBOA airspace/tall structure manager for assistance submitting forms.

sef-107-020 (20171004)

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

John Roelke, License Number All-119523, inspected Structures B-64-34, B-64-37, B-64-38, and B-64-61 for asbestos on October 7, 2009. No regulated Asbestos Containing Material (RACM) was found on these structures. A copy of the inspection reports is available from: Amy Taetsch, (414) 750-4708.

stp-107-127 (20120615)

1. Abatement of Asbestos Containing Material B-64-31, Item 203.0210.S.01; Abatement of Asbestos Containing Material B-64-39, Item 203.0210.S.02.

A Description

This special provision describes abating asbestos containing material on structures.

B (Vacant)

C Construction

John Roelke, License Number All-119523, inspected Structure B-64-31 for asbestos on October 7, 2009 and inspected Structure B-64-39 for asbestos on September 9, 2013. Regulated Asbestos Containing Material (RACM) was found on these structures in the following locations and quantities: non-friable asbestos containing material located in the gray pads under the bridge railing attachments.

The RACM on this structure must be abated by a licensed abatement contractor. A copy of the inspection report is available from Amy Taetsch, (414) 750-4708. In accordance with NR447 and DHS159, ensure that DNR or DHS receives a completed Notification of Demolition and/or Renovation (DNR Form 4500-113 (R 4/11), or subsequent revision) via U.S. mail, hand-delivery, or using the online notification system at least 10 working days before beginning any construction or demolition. Pay all associated fees. Provide a copy of the completed 4500-113 form and the abatement report to Amy Taetsch, (414) 750-4708 and DOT BTS-ESS attn: Hazardous Materials Specialist, PO Box 7965, Madison, WI 53707-7965. In addition, comply with all local or municipal asbestos requirements.

Use the following information to complete WisDNR form 4500-113:

- Site Name: Structure B-64-31, Sheridan Springs Road over USH 12; Structure B-64-39, Springfield Road over USH 12

- Site Address: B-64-31 is 0.7 miles east of the junction with STH 120; B-64-39 is 0.9 miles west of the junction with CTH NN

- Ownership Information: WisDOT Transportation Southeast Region, 141 NW Barstow Street, PO Box 798, Waukesha, WI 53187

- Contact: Amy Taetsch

- Phone: (414) 750-4708

- Age: B-64-31 is 53 years old and was constructed in 1967; B-64-39 is 52 years old and was constructed in 1968

- Area: B-64-31 has 7,290 SF of deck; B-64-39 has 5,712 SF of deck

Insert the following paragraph in Section 6.g.:

- If asbestos not previously identified is found or previously non-friable asbestos becomes crumbled, pulverized, or reduced to a powder, stop work immediately, notify the engineer, and the engineer will notify the department’s Bureau of Technical Services at (608) 266-1476 for an emergency response as specified in standard spec 107.24. Keep material wet until it is abated or until it is determined to be non-asbestos containing material.

D Measurement

The department will measure Abatement of Asbestos Containing Material (Structure), completed in according to the contract and accepted, as a single complete lump sum 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

203.0210.S.01 Abatement of Asbestos Containing Material B-64-31 LS

203.0210.S.02 Abatement of Asbestos Containing Material B-64-39 LS

Payment is full compensation for submitting necessary forms; removing all asbestos; and for properly disposing of all waste materials.

stp-203-005 (20120615)

1. Debris Containment B-64-31, Item 203.0225.S.

A Description

This special provision describes providing a containment system to prevent debris, chippings, saw cut slurry, or any other waste from structure removal, reconstruction, or other construction or maintenance operations from falling onto facilities, railways, waterways, or wetlands located under or adjacent to the structure. Using this containment system does not relieve the contractor of requirements under standard spec 107.17 and standard spec 107.19 or requirements under a U.S. Army Corps of Engineers Section 404 Permit.

B (Vacant)

C Construction

Before starting work, submit a debris containment plan to the engineer for review. Incorporate engineer-requested modifications. Do not start work over USH 12 until the engineer approves the debris containment plan.

Maintain adequate protection throughout construction for people and property within the potential fall zone. Install a containment system that maintains existing vertical clearance to the facilities below and is capable of protecting underlying facilities from falling construction debris before beginning deck repair, parapet removal, or other operations that may generate debris.

At least 15 working days before conducting potential debris generating operations, contact the following owners or lessees:

1. Amy Taetsch, WisDOT Southeast Region, (414) 750-4708

Upon completion of the work or when directed by the engineer, remove the debris containment system.

D Measurement

The department will measure Debris Containment B-64-31 as a single lump sum unit of work for each structure, 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

203.0225.S Debris Containment B-64-31 LS

Payment for Debris Containment is full compensation supplying a debris containment plan; and for furnishing, installing, maintaining, and removing a debris containment system.

stp-203-010 (20200629)

1. Removing Old Structure Over Waterway with Minimal Debris Station 693+31, Item 203.0600.S.01; Removing Old Structure Over Waterway with Minimal Debris Station 730+71, Item 203.0600.S.02; Removing Old Structure Over Waterway with Minimal Debris Station 731+67, Item 203.0600.S.03.

Conform to standard spec 203 as modified in this special provision.

*Add the following to standard spec 203:*

203.3.6 Removals Over Waterways and Wetlands

203.3.6.2 Removing Old Structure Over Waterway with Minimal Debris

(1) Remove existing wingwalls of structures B-64-34, B-64-37, and B-64-38 over the Como Creek in large sections and conforming to the contractor’s approved structure removal and clean-up plan. During wingwall removal, prevent all large pieces and minimize the number of small pieces from entering the waterway or wetland. Remove all reinforcing steel, all concrete, and all other debris that falls into the waterway or wetland. The contractor may leave limited amounts of small concrete pieces scattered over the waterway floor or wetland only if the engineer allows.

(2) Submit a structure removal and clean-up plan as part of the erosion control implementation plan required under standard spec 107.20. Do not start work under the structure removal and clean-up plan without the department’s written approval of the plan. Include the following information in the structure removal and clean-up plan:

- Methods and schedule to remove the structure.

- Methods to control potentially harmful environmental impacts.

- Methods for superstructure removal that prevent all large pieces and minimize the number of small pieces from entering the waterway or wetlands.

- Methods to control dust and contain slurry.

- Methods for removing piers and abutments. If blasting in water, include restrictions that regulatory agencies and the contract require.

- Methods for cleaning the waterway or wetlands.

(3) If stockpiling spoil material, place it on an upland site an adequate distance from the waterway, wetland, or any open water created by excavation. Install silt fence between the spoil pile and the waterway, wetland, or excavation site.

*Add the following Removing Old Structure bid item to standard spec 203.5.1:*

ITEM NUMBER DESCRIPTION UNIT

203.0600.S.01 Removing Old Structure Over Waterway with Minimal Debris Station 693+31 LS

203.0600.S.02 Removing Old Structure Over Waterway with Minimal Debris Station 730+71 LS

203.0600.S.03 Removing Old Structure Over Waterway with Minimal Debris Station 731+67 LS

stp-203-020 (20190618)

1. Removing Inlet Covers, Item 204.9060.S.01

A Description

This special provision describes removing Inlet Covers conforming to standard spec 204.

B (Vacant)

C (Vacant)

D Measurement

The department will measure Removing Inlet Covers as each individual unit acceptably completed.

E Payment

*Add the following to standard spec 204.5:*

ITEM NUMBER DESCRIPTION UNIT

204.9060.S.01 Removing Inlet Covers EACH

stp-204-025 (20150630)

1. Removing Apron Endwall for Culvert Pipe Reinforced Concrete 18-Inch, Item 204.9060.S.02; Removing Apron Endwall for Culvert Pipe Reinforced Concrete 24-Inch, Item 204.9060.S.03; Removing Apron Endwall for Culvert Pipe Reinforced Concrete 30-Inch, Item 204.9060.S.04; Removing Apron Endwall for Culvert Pipe Reinforced Concrete 42-Inch, Item 204.9060.S.05.

A Description

This special provision describes removing Apron Endwall for Culvert Pipe (material) (size) conforming to standard spec 204.

B (Vacant)

C (Vacant)

D Measurement

The department will measure Removing Apron Endwall for Culvert Pipe (material) (size) as each individual unit acceptably completed.

E Payment

*Add the following to standard spec 204.5:*

ITEM NUMBER DESCRIPTION UNIT

204.9060.S.002 Removing Apron Endwall for Culvert Pipe Reinforced Concrete 18-Inch EACH

204.9060.S.003 Removing Apron Endwall for Culvert Pipe Reinforced Concrete 24-Inch EACH

204.9060.S.004 Removing Apron Endwall for Culvert Pipe Reinforced Concrete 30-Inch EACH

204.9060.S.005 Removing Apron Endwall for Culvert Pipe Reinforced Concrete 42-Inch EACH

stp-204-025 (20150630)

1. Removing Flexible Tubular Markers, Item 204.9060.S.06.

A Description

This special provision describes removing Flexible Tubular Markers conforming to standard spec 204.

B (Vacant)

C (Vacant)

D Measurement

The department will measure Removing Flexible Tubular Markers in each acceptably completed.

E Payment

*Add the following to standard spec 204.5:*

ITEM NUMBER DESCRIPTION UNIT

204.9060.S.06 Removing Flexible Tubular Markers EACH

stp-204-025 (20150630)

1. 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 except 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.

<https://wisconsindot.gov/rdwy/cmm/cm-08-00toc.pdf>

(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/>

B Materials

B.1 Personnel

(1) Nuclear gauge owners and personnel using nuclear gauges shall comply with WisDOT requirements according to 460.3.3 and CMM 8-15.

B.2 Testing

(1) Conform to ASTM D2950 and CMM 8.15 for density testing and gauge monitoring methods. Conform to CMM 8-15.10.4 for test duration and gauge placement.

B.3 Equipment

B.3.1 General

(1) Furnish nuclear gauges according to CMM 8-15.2.

(2) Furnish nuclear gauges from the department’s approved product list at

<https://wisconsindot.gov/Pages/doing-bus/eng-consultants/cnslt-rsrces/tools/appr-prod/default.aspx>

B.3.2 Comparison of Nuclear Gauges

B.3.2.1 Comparison of QC and QV Nuclear Gauges

(1) Compare QC and QV nuclear gauges according to CMM 8-15.7.

B.3.2.2 Comparison Monitoring

(1) Conduct reference site monitoring for both QC and QV gauges according to CMM 8-15.

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) Divide the pavement into lots and sublots for nuclear density testing according to CMM 8-15.10.2.

(2) Determine required number of tests according to CMM 8-15.10.2.1.

(3) Determine random testing locations according to CMM 8-15.10.3.

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

(1) Divide the pavement into lots and sublots for nuclear density testing according to CMM 8-15.10.2.

(2) Determine required number of tests according to CMM 8-15.10.2.2.

(3) Determine random testing locations according to CMM 8-15.10.3.

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 as specified in 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 as specified in 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 two 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/ft3 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/ft3 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/ft3, use the original QC tests for acceptance.

(6) If the QV and QC sublot averages differ by more than 1.0 lb/ft3 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 comparison according to B.3.2.1.

(2) The testers may use comparison 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-compared 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 as specified in standard spec 460.5.2.2.

E.3 Incentive for HMA Pavement Density

(1) The department will administer density incentives as specified in standard spec 460.5.2.3.

stp-460-020 (20181119)

Use this STSP for all HMA PWL QMP contracts.

Follow design guidance in FDM 19-21-10.

Insert Appendix A - Test Methods & Sampling for HMA PWL QMP Projects with this STSP. It covers the following:

1. Nuclear density gauge to core correlation.

2. Core hole filling procedures.

1. HMA Percent Within Limits (PWL) Test Strip Volumetrics, Item 460.0105.S;  
   HMA Percent Within Limits (PWL) Test Strip Density Item 460.0110.S.

**A Description**

This special provision describes the Hot Mix Asphalt (HMA) density and volumetric testing tolerances required for an HMA test strip. An HMA test strip is required for contracts constructed under HMA Percent Within Limits (PWL) QMP. A density test strip is required for each pavement layer placed over a specific, uniform underlying material, unless specified otherwise in the plans. Each contract is restricted to a single mix design per mix type per layer (e.g., upper layer and lower layer may have different mix type specified or may have the same mix type with different mix designs). Each mix design requires a separate test strip. Density and volumetrics testing will be conducted on the same test strip whenever possible.

Perform work according to standard spec 460 and as follows.

**B Materials**

Use materials conforming to HMA Pavement Percent Within Limits (PWL) QMP special provision.

**C Construction**

**C.1 Test Strip**

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

On the first day of production for a test strip, produce approximately 750 tons of HMA. (Note: adjust tonnage to accommodate natural break points in the project.) Locate test strips in a section of the roadway to allow a representative rolling pattern (i.e. not a ramp or shoulder, etc.).

**C.1.1 Sampling and Testing Intervals**

**C.1.1.1 Volumetrics**

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

During production for the test strip, obtain sufficient HMA mixture for three-part split samples from trucks prior to departure from the plant. Collect three split samples during the production of test strip material. Perform sampling from the truck box and three-part splitting of HMA according to CMM 8-36*.* These three samples will be randomly selected by the engineer from each *third* of the test strip tonnage (T), excluding the first 50 tons:

|  |  |
| --- | --- |
| Sample Number | Production Interval (tons) |
| 1 | 50 to 1/3 T |
| 2 | 1/3 T to 2/3 T |
| 3 | 2/3 T to T |

**C.1.1.2 Density**

Required field tests include contractor QC and department QV nuclear density gauge tests and pavement coring at ten individual locations (five in each half of the test strip length) in accordance with Appendix A: *Test Methods and Sampling for HMA PWL QMP Projects*. Both QV and QC teams shall have two nuclear density gauges present for correlation at the time the test strip is constructed. QC and QV teams may wish to scan with additional gauges at the locations detailed in Appendix A, as only gauges used during the test strip correlation phase will be allowed.

**C.1.2 Field Tests**

**C.1.2.1 Density**

For contracts that include STSP 460-020 QMP Density in addition to PWL, a gauge comparison according to CMM 8-15.7 shall be completed prior to the day of test strip construction. Daily standardization of gauges on reference blocks and a project reference site shall be performed according to CMM 8-15.8. A standard count shall be performed for each gauge on the material placed for the test strip, prior to any additional data collection. Nuclear gauge readings and pavement cores shall be used to determine nuclear gauge correlation in accordance with Appendix A. The two to three readings for the five locations across the mat for each of two zones shall be provided to the engineer. The engineer will analyze the readings of each gauge relative to the densities of the cores taken at each location. The engineer will determine the average difference between the nuclear gauge density readings and the measured core densities to be used as a constant offset value. This offset will be used to adjust raw density readings of the specific gauge and shall appear on the density data sheet along with gauge and project identification. An offset is specific to the mix and layer; therefore, a separate value shall be determined for each layer of each mix placed over a differing underlying material for the contract. This constitutes correlation of that individual gauge for the given layer. Two gauges per team are not required to be onsite daily after completion of the test strip. Any data collected without a correlated gauge will not be accepted.

The contractor is responsible for coring the pavement from the footprint of the density tests and filling core holes according to Appendix A. Coring and filling of pavement core holes must be approved by the engineer. The QV team is responsible for the labeling and safe transport of the cores from the field to the QC laboratory. Testing of cores shall be conducted by the contractor and witnessed by department personnel. The contractor is responsible for drying the cores following testing. The department will take possession of cores following laboratory testing and will be responsible for any verification testing at the discretion of the engineer.

The target maximum density to be used in determining core density is the average of the three volumetric/mix Gmm values from the test strip multiplied by 62.24 lb/ft3. In the event mix and density portions of the test strip procedure are separated, or if an additional density test strip is required, the mix portion must be conducted prior to density determination. The target maximum density to determine core densities shall then be the Gmm four-test running average (or three-test average from a PWL volumetric-only test strip) from the end of the previous day’s production multiplied by 62.24 lb/ft3. If no PWL production volumetric test is to be taken in a density-only test strip, a non-random three-part split mix sample will be taken and tested for Gmm by the department representative. The department Gmm test results from this non-random test will be entered in the HMA PWL Test Strip Spreadsheet and must conform to the Acceptance Limits presented in C.2.1.

Exclusions such as shoulders and appurtenances shall be tested and reported according to CMM 8-15. However, all acceptance testing of shoulders and appurtenances will be conducted by the department, and average lot (daily) densities must conform to standard spec Table 460-3. No density incentive or disincentive will be applied to shoulders or appurtenances. However, unacceptable shoulder material will be handled according to standard spec 460.3.3.1 and CMM 8-15.11.

**C.1.3 Laboratory Tests**

**C.1.3.1 Volumetrics**

Obtain random samples according to C.1.1.1 and Appendix A. Perform tests the same day as taking the sample.

Theoretical maximum specific gravities of each mixture sample will be obtained according to AASHTO T 209 as modified in CMM 8-36.6.6. Bulk specific gravities of both gyratory compacted samples and field cores shall be determined according to AASHTO T 166 as modified in CMM 8-36.6.5. The bulk specific gravity values determined from field cores shall be used to calculate a correction factor (i.e., offset) for each QC and QV nuclear density gauge. The correction factor will be used throughout the remainder of the layer.

**C.2 Acceptance**

**C.2.1 Volumetrics**

Produce mix conforming to the following limits based on individual QC and QV test results (tolerances based on most recent JMF):

ITEM ACCEPTANCE LIMITS

Percent passing given sieve:

37.5-mm +/- 8.0

25.0-mm +/- 8.0

19.0-mm +/- 7.5

12.5-mm +/- 7.5

9.5-mm +/- 7.5

2.36-mm +/- 7.0

75-µm +/- 3.0

Asphaltic content in percent*[1]* - 0.5

Air Voids -1.5 & +2.0

VMA in percent*[2]* - 1.0

Maximum specific gravity +/- 0.024

*[1]* Asphalt content more than -0.5% below the JMF will be referee tested by the department’s AASHTO accredited laboratory and HTCP certified personnel using automated extraction according to ASTM D8159 as modified in CMM 8-36.6.3.1.

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

QV samples will be tested for Gmm, Gmb, and AC. Air voids and VMA will then be calculated using these test results.

Calculation of air voids shall use either the QC, QV, or retained split sample test results, as identified by conducting the paired t-test with the WisDOT PWL Test Strip Spreadsheet.

If QC and QV test results do not correlate as determined by the split sample comparison, the retained split sample will be tested by the department’s AASHTO accredited laboratory and HTCP certified personnel as a referee test. Additional investigation shall be conducted to identify the source of the difference between QC and QV data. Referee data will be used to determine material conformance and pay.

**C.2.2 Density**

Compact all layers of test strip HMA mixture to the applicable density shown in the following table:

TABLE 460-3 MINIMUM REQUIRED DENSITY*[1]*

|  |  |  |
| --- | --- | --- |
|  | MIXTURE TYPE | |
| LAYER | LT & MT | HT |
| LOWER | 93.0*[2]* | 93.0*[3]* |
| UPPER | 93.0 | 93.0 |

*[1]* If any individual core density test result falls more than 3.0 percent below the minimum required target maximum density, the engineer will investigate the acceptability of that material per CMM 8-15.11.

*[2]* Minimum reduced by 2.0 percent for a lower layer constructed directly on crushed aggregate or recycled base courses.

*[3]* Minimum reduced by 1.0 percent for lower layer constructed directly on crushed aggregate or recycled base courses.

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

**C.2.3 Test Strip Approval and Material Conformance**

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

The department will evaluate material conformance and make pay adjustments based on the PWL value of air voids and density for the test strip. The QC core densities and QC and QV mix results will be used to determine the PWL values as calculated in accordance with Appendix A.

The PWL values for air voids and density shall be calculated after determining core densities. An approved test strip is defined as the individual PWL values for air voids and density both being equal to or greater than 75, mixture volumetric properties conforming to the limits specified in C.2.1, and an acceptable gauge-to-core correlation. Further clarification on PWL test strip approval and appropriate post-test strip actions are shown in the following table:

PWL TEST STRIP APPROVAL AND MATERIAL CONFORMANCE CRITERIA

|  |  |  |  |
| --- | --- | --- | --- |
| PWL Value for Air Voids and Density | Test Strip Approval | Material Conformance | Post-Test Strip Action |
| Both PWL > 75 | Approved1 | Material paid for according to Section E | Proceed with Production |
| 50 < Either PWL < 75 | Not Approved | Material paid for according to Section E | Consult BTS to determine need for additional test strip |
| Either PWL < 50 | Not Approved | Unacceptable material removed and replaced or paid for at 50% of the contract unit price according to Section E | Construct additional Volumetrics or Density test strip as necessary |

1 In addition to these PWL criteria, mixture volumetric properties must conform to the limits specified in C.2.1, split sample comparison must have a passing result and an acceptable gauge-to-core correlation must be completed.

A maximum of two test strips will be allowed to remain in place per pavement layer per contract. If material is removed, a new test strip shall replace the previous one at no additional cost to the department. If the contractor changes the mix design for a given mix type during a contract, no additional compensation will be paid by the department for the required additional test strip and the department will assess the contractor $2,000 for the additional test strip according to Section E of this special provision. For simultaneously conducted density and volumetric test strip components, the following must be achieved:

1. Passing/Resolution of Split Sample Comparison
2. Volumetrics/mix PWL value > 75
3. Density PWL value > 75
4. Acceptable correlation

If not conducted simultaneously, the mix portion of a test strip must accomplish (i) & (ii), while density must accomplish (iii) & (iv). If any applicable criteria are not achieved for a given test strip, the engineer, with authorization from the department’s Bureau of Technical Services, will direct an additional test strip (or alternate plan approved by the department) be conducted to prove the criteria can be met prior to additional paving of that mix. For a density-only test strip, determination of mix conformance will be according to main production, i.e., HMA Pavement Percent Within Limits (PWL) QMP special provision.

**D Measurement**

The department will measure HMA Percent Within Limits (PWL) Test Strip as each unit of work, acceptably completed as passing the required air void, VMA, asphalt content, gradation, and density correlation for a Test Strip. Material quantities shall be determined according to standard spec 450.4 and detailed here within.

**E Payment**

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

ITEM NUMBER DESCRIPTION UNIT

460.0105.S HMA Percent Within Limits (PWL) Test Strip Volumetrics EACH

460.0110.S HMA Percent Within Limits (PWL) Test Strip Density EACH

These items are intended to compensate the contractor for the construction of the test strip for contracts paved under the HMA Pavement Percent Within Limits QMP article.

Payment for HMA Percent Within Limits (PWL) Test Strip Volumetrics is full compensation for volumetric sampling, splitting, and testing; for proper labeling, handling, and retention of split samples.

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

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

Pay adjustment will be calculated using 65 dollars per ton of HMA pavement. The department will pay for measured quantities of mix based on $65/ton multiplied by the following pay adjustment:

**PAY ADJUSTMENT FOR HMA PAVEMENT AIR VOIDS & DENSITY**

*PERCENT WITHIN LIMITS PAYMENT FACTOR, PF*

*(PWL) (percent of $65/ton)*

> 90 to 100 PF = ((PWL – 90) \* 0.4) + 100

> 50 to < 90 (PWL \* 0.5) + 55

<50 50%[1]

where, PF is calculated per air voids and density, denoted PFair voids & PFdensity

*[1]*Material resulting in PWL value less than 50 shall be removed and replaced, unless the engineer allows for such material to remain in place. In the event the material remains in place, it will be paid at 50% of the contract unit price of HMA pavement.

For air voids, PWL values will be calculated using lower and upper specification limits of 2.0 and 4.3 percent, respectively. Lower specification limits for density will be according to Table 460-3 as modified herein. Pay adjustment will be determined for an acceptably completed test strip and will be computed as shown in the following equation:

Pay Adjustment = (PF-100)/100 x (WP) x (tonnage) x ($65/ton)\*

\*Note: If Pay Factor <50, the contract unit price will be used in lieu of $65/ton

The following weighted percentage (WP) values will be used for the corresponding parameter:

Parameter WP

Air Voids 0.5

Density 0.5

Individual Pay Factors for each air voids (PFair voids) and density (PFdensity) will be determined. PFair voids will be multiplied by the total tonnage produced (i.e., from truck tickets), and PFdensity will be multiplied by the calculated tonnage used to pave the mainline only (i.e., traffic lane excluding shoulder) as determined in accordance with Appendix A.

The department will pay incentive for air voids under the following bid item:

ITEM NUMBER DESCRIPTION UNIT

460.2005 Incentive Density PWL HMA Pavement DOL

460.2010 Incentive Air Voids HMA Pavement DOL

The department will administer disincentives under the Disincentive Density HMA Pavement and the Disincentive Air Voids HMA Pavement administrative items.

stp-460-040 (20191121)

Use this STSP for all HMA PWL QMP contracts. Include the HMA Pavement Longitudinal Joint Density SPV on all HMA PWL QMP contracts.

Follow design guidance in FDM 19-21-10.

Insert Appendix A - Test Methods & Sampling for HMA PWL QMP Projects with this STSP. It covers the following:

1. Nuclear density testing.

2. Sampling of HMA material.

3. Calculation of mainline tonnage.

1. HMA Pavement Percent Within Limits (PWL) QMP.

**A Description**

This special provision describes percent within limits (PWL) pay determination, providing and maintaining a contractor Quality Control (QC) Program, department Quality Verification (QV) Program, required sampling and testing, dispute resolution, corrective action, pavement density, and payment for HMA pavements. Pay is determined by statistical analysis performed on contractor and department test results conducted according to the Quality Management Program (QMP) as specified in standard spec 460, except as modified below.

**B Materials**

Conform to the requirements of standard spec 450, 455, and 460 except where superseded by this special provision. The department will allow only one mix design for each HMA mixture type per layer required for the contract, unless approved by the engineer. The use of more than one mix design for each HMA pavement layer will require the contractor to construct a new test strip in accordance with HMA Pavement Percent Within Limits (PWL) QMP Test Strip Volumetrics and HMA Pavement Percent Within Limits (PWL) QMP Test Strip Density articles at no additional cost to the department.

*Replace standard spec 460.2.8.2.1.3.1 Contracts with 5000 Tons of Mixture or Greater with the following:*

**460.2.8.2.1.3.1 Contracts under Percent within Limits**

(1) Furnish and maintain a laboratory at the plant site fully equipped for performing contractor QC testing. Have the laboratory on-site and operational before beginning mixture production.

(2) Obtain random samples and perform tests according to this special provision and further defined in Appendix A: *Test Methods & Sampling for HMA PWL QMP Projects*. Obtain HMA mixture samples from trucks at the plant. For the sublot in which a QV sample is collected, discard the QC sample and test a split of the QV sample.

(3) Perform sampling from the truck box and three-part splitting of HMA samples according to CMM 8-36*.* Sample size must be adequate to run the appropriate required tests in addition to one set of duplicate tests that may be required for dispute resolution (i.e., retained). This requires sample sizes which yield three splits for all random sampling per sublot. All QC samples shall provide the following: QC, QV, and Retained. The contractor shall take possession and test the QC portions. The department will observe the splitting and take possession of the samples intended for QV testing (i.e., QV portion from each sample) and the Retained portions. Additional sampling details are found in Appendix A. Label samples according to CMM 8-36. Additional handling instructions for retained samples are found in CMM 8‑36.

(4) Use the test methods identified below to perform the following tests at a frequency greater than or equal to that indicated:

* Blended aggregate gradations in accordance with AASHTO T 30
* Asphalt content (AC) in percent determined by ignition oven method according to AASHTO T 308 as modified in CMM 8-36.6.3.6, chemical extraction according to AASHTO T 164 Method A or B, or automated extraction according to ASTM D8159 as modified in CMM 8-36.6.3.1.
* Bulk specific gravity (Gmb) of the compacted mixture according to AASHTO T 166 as modified in CMM 8-36.6.5.
* Maximum specific gravity (Gmm) according to AASHTO T 209 as modified in CMM 8-36.6.6
* Air voids (Va) by calculation according to AASHTO T 269.
* Voids in Mineral Aggregate (VMA) by calculation according to AASHTO R35.

(5) Lot size shall consist of 3750 tons with sublots of 750 tons. Test each design mixture at a frequency of 1 test per 750 tons of mixture type produced and placed as part of the contract. Add a random sample for any fraction of 750 tons at the end of production for a specific mixture design. Partial lots with less than three sublot tests will be included into the previous lot for data analysis and pay adjustment. Volumetric lots will include all tonnage of mixture type under specified bid item unless otherwise specified in the plan.

(6) Conduct field tensile strength ratio tests according to AASHTO T283, without freeze-thaw conditioning cycles, on each qualifying mixture in accordance with CMM 8-36.6.14. Test each full 50,000-ton production increment, or fraction of an increment, after the first 5,000 tons of production. Perform required increment testing in the first week of production of that increment. If field tensile strength ratio values are below the spec limit, notify the engineer. The engineer and contractor will jointly determine a corrective action.

*Delete standard spec 460.2.8.2.1.5 and 460.2.8.2.1.6.*

*Replace standard spec 460.2.8.2.1.7 Corrective Action with the following:*

**460.2.8.2.1.7 Corrective Action**

(1) Material must conform to the following action and acceptance limits based on individual QC and QV test results (tolerances relative to the JMF used on the PWL Test Strip):

ITEM ACTION LIMITS ACCEPTANCE LIMITS

Percent passing given sieve:

37.5-mm +/- 8.0

25.0-mm +/- 8.0

19.0-mm +/- 7.5

12.5-mm +/- 7.5

9.5-mm +/- 7.5

2.36-mm +/- 7.0

75-µm +/- 3.0

AC in percent*[1]* -0.3 -0.5

Va - 1.5 & +2.0

VMA in percent*[2]* - 0.5 -1.0

*[1]* The department will not adjust pay based on QC AC in percent test results; however corrective action will be applied to nonconforming material according to 460.2.8.2.1.7(3) as modified herein. *[2]* VMA limits based on minimum requirement for mix design nominal maximum aggregate size in table 460‑1.

(2) QV samples will be tested for Gmm, Gmb, and AC. Air voids and VMA will then be calculated using these test results.

(3) Notify the engineer if any individual test result falls outside the action limits, investigate the cause and take corrective action to return to within action limits. If two consecutive test results fall outside the action limits, stop production. Production may not resume until approved by the engineer. Additional QV samples may be collected upon resuming production, at the discretion of the engineer.

(4) For any additional tests outside the random number testing conducted for volumetrics, the data collected will not be entered into PWL calculations. Additional QV tests must meet acceptance limits or be subject to production stop and/or remove and replace.

(5) Remove and replace unacceptable material at no additional expense to the department. Unacceptable material is defined as any individual QC or QV tests results outside the acceptance limits or a PWL value < 50. The engineer may allow such material to remain in place with a price reduction. The department will pay for such HMA Pavement allowed to remain in place at 50 percent of the contract unit price.

*Replace standard spec 460.2.8.3.1.2 Personnel Requirements with the following:*

**460.2.8.3.1.2 Personnel Requirements**

(1) The department will provide at least one HTCP-certified Transportation Materials Sampling (TMS) Technician, to observe QV sampling of HMA mixtures.

(2) Under departmental observation, a contractor TMS technician shall collect and split samples.

(3) A department HTCP-certified Hot Mix Asphalt, Technician I, Production Tester (HMA-IPT) technician will ensure that all sampling is performed correctly and conduct testing, analyze test results, and report resulting data.

(4) The department will make an organizational chart available to the contractor before mixture production begins. The organizational chart will include names, telephone numbers, and current certifications of all QV testing personnel. The department will update the chart with appropriate changes, as they become effective.

*Replace standard spec 460.2.8.3.1.4 Department Verification Testing Requirements with the following:*

**460.2.8.3.1.4 Department Verification Testing Requirements**

(1) HTCP-certified department personnel will obtain QV random samples by directly supervising HTCP-certified contractor personnel sampling from trucks at the plant. Sample size must be adequate to run the appropriate required tests in addition to one set of duplicate tests that may be required for dispute resolution (i.e., retained). This requires sample sizes which yield three splits for all random sampling per sublot. All QV samples shall furnish the following: QC, QV, and Retained. The department will observe the splitting and take possession of the samples intended for QV testing (i.e., QV portion from each sample) and the Retained portions. The department will take possession of retained samples accumulated to date each day QV samples are collected. The department will retain samples until surpassing the analysis window of up to 5 lots, as defined in standard spec 460.2.8.3.1.7(2) of this special provision. Additional sampling details are found in Appendix A.

(2) The department will verify product quality using the test methods specified here in standard spec 460.2.8.3.1.4(3). The department will identify test methods before construction starts and use only those methods during production of that material unless the engineer and contractor mutually agree otherwise.

(3) The department will perform all testing conforming to the following standards:

* Bulk specific gravity (Gmb) of the compacted mixture according to AASHTO T 166 as modified in CMM 8-36.6.5.
* Maximum specific gravity (Gmm) according to AASHTO T 209 as modified in CMM 8-36.6.6.
* Air voids (Va) by calculation according to AASHTO T 269.
* Voids in Mineral Aggregate (VMA) by calculation according to AASHTO R 35.
* Asphalt Content (AC) in percent determined by ignition oven method according to AASHTO T 308 as modified in CMM 8-36.6.3.6, chemical extraction according to AASHTO T 164 Method A or B, or automated extraction according to ASTM D8159 as modified in CMM 8-36.6.3.1.

(4) The department will randomly test each design mixture at the minimum frequency of one test for each lot.

*Delete standard spec 460.2.8.3.1.6.*

*Replace standard spec 460.2.8.3.1.7 Dispute Resolution with the following:*

**460.2.8.3.1.7 Data Analysis for Volumetrics**

(1) Analysis of test data for pay determination will be contingent upon QC and QV test results. Statistical analysis will be conducted on Gmm and Gmb test results for calculation of Va. If either Gmm or Gmb analysis results in non-comparable data as described in 460.2.8.3.1.7(2), subsequent testing will be performed for both parameters as detailed in the following paragraph.

(2) The engineer, upon completion of the first 3 lots, will compare the variances (F-test) and the means (t‑test) of the QV test results with the QC test results. Additional comparisons incorporating the first 3 lots of data will be performed following completion of the 4th and 5th lots (i.e., lots 1-3, 1-4, and 1-5). A rolling window of 5 lots will be used to conduct F & t comparison for the remainder of the contract (i.e., lots 2-6, then lots 3-7, etc.), reporting comparison results for each individual lot. Analysis will use a set alpha value of 0.025. If the F- and t-tests report comparable data, the QC and QV data sets are determined to be statistically similar and QC data will be used to calculate the Va used in PWL and pay adjustment calculations. If the F- and t-tests result in non-comparable data, proceed to the *dispute resolution* steps found below. Note: if both QC and QV Va PWL result in a pay adjustment of 102% or greater, dispute resolution testing will not be conducted. Dispute resolution via further investigation is as follows:

[1] The Retained portion of the split from the lot in the analysis window with a QV test result furthest from the QV mean (not necessarily the sublot identifying that variances or means do not compare) will be referee tested by the bureau's AASHTO accredited laboratory and certified personnel. All previous lots within the analysis window are subject to referee testing and regional lab testing as deemed necessary. Referee test results will replace the QV data of the sublot(s).

[2] Statistical analysis will be conducted with referee test results replacing QV results.

1. If the F- and t-tests indicate variances and means compare, no further testing is required for the lot and QC data will be used for PWL and pay factor/adjustment calculations.
2. If the F- and t-tests indicate non-comparable variances or means, the Retained portion of the random QC sample will be tested by the department’s regional lab for the remaining 4 sublots of the lot which the F- and t- tests indicate non‑comparable datasets. The department’s regional lab and the referee test results will be used for PWL and pay factor/adjustment calculations. Upon the second instance of non-comparable variance or means and for every instance thereafter, the department will assess a pay reduction for the additional testing of the remaining 4 sublots at $2,000/lot under the HMA Regional Lab Testing administrative item.

[3] The contractor may choose to dispute the regional test results on a lot basis. In this event, the retained portion of each sublot will be referee tested by the department's AASHTO accredited laboratory and certified personnel. The referee Gmm and Gmb test results will supersede the regional lab results for the disputed lot.

1. If referee testing results in an increased calculated pay factor, the department will pay for the cost of the additional referee testing.
2. If referee testing of a disputed lot results in an equal or lower calculated pay factor, the department will assess a pay reduction for the additional referee testing at $2,000/lot under the Referee Testing administrative item.

(3) The department will notify the contractor of the referee test results within 3 working days after receipt of the samples by the department's AASHTO accredited laboratory. The intent is to provide referee test results within 7 calendar days from completion of the lot.

(4) The department will determine mixture conformance and acceptability by analyzing referee test results, reviewing mixture data, and inspecting the completed pavement according to the standard spec, this special provision, and accompanying Appendix A.

(5) Unacceptable material (i.e., resulting in a PWL value less than 50 or individual QC or QV test results not meeting the Acceptance Requirements of 460.2.8.2.1.7 as modified herein) will be referee tested by the bureau's AASHTO accredited laboratory and certified personnel and those test results used for analysis. Such material may be subject to remove and replace, at the discretion of the engineer. If the engineer allows the material to remain in place, it will be paid at 50% of the HMA Pavement contract unit price. Replacement or pay adjustment will be conducted on a sublot basis. If an entire PWL sublot is removed and replaced, the test results of the newly placed material will replace the original data for the sublot. Any remove and replace shall be performed at no additional cost to the department. Testing of replaced material must include a minimum of one QV result. [Note: If the removed and replaced material does not result in replacement of original QV data, an additional QV test will be conducted and under such circumstances will be entered into the [HMA PWL Production spreadsheet](http://wisconsindot.gov/Documents/doing-bus/eng-consultants/cnslt-rsrces/tools/qmp/hma-pwl-production-4-26-2018.xlsm) for data analysis and pay determination.] The quantity of material paid at 50% the contract unit price will be deducted from PWL pay adjustments, along with accompanying data of this material.

*Delete standard spec 460.2.8.3.1.8 Corrective Action.*

**C Construction**

*Replace standard spec 460.3.3.2 Pavement Density Determination with the following:*

**460.3.3.2 Pavement Density Determination**

(1) The engineer will determine the target maximum density using department procedures described in CMM 8-15. The engineer will determine density as soon as practicable after compaction and before placement of subsequent layers or before opening to traffic.

(2) Do not re-roll compacted mixtures with deficient density test results. Do not operate continuously below the specified minimum density. Stop production, identify the source of the problem, and make corrections to produce work meeting the specification requirements.

(3) A lot is defined as 7500 lane feet with sublots of 1500 lane feet (excluding shoulder, even if paved integrally) and placed within a single layer for each location and target maximum density category indicated in table 460‑3. The contractor is required to complete three tests randomly per sublot and the department will randomly conduct one QV test per sublot. A partial quantity less than 750 lane feet will be included with the previous sublot. Partial lots with less than three sublots will be included in the previous lot for data analysis/acceptance and pay, by the engineer. If density lots/sublots are determined prior to construction of the test strip, any random locations within the test strip shall be omitted. Exclusions such as shoulders and appurtenances shall be tested and recorded in accordance with CMM 8-15. However, all acceptance testing of shoulders and appurtenances will be conducted by the department, and average lot (daily) densities must conform to standard spec Table 460-3. No density incentive or disincentive will be applied to shoulders or appurtenances. Offsets will not be applied to nuclear density gauge readings for shoulders or appurtenances. Unacceptable shoulder material will be handled according to standard spec 460.3.3.1 and CMM 8-15.11.

(4) The three QC locations per sublot represent the outside, middle, and inside of the paving lane. The QC density testing procedures are detailed in Appendix A.

(5) QV nuclear testing will consist of one randomly selected location per sublot. The QV density testing procedures will be the same as the QC procedure at each testing location and are also detailed in Appendix A.

(6) An HTCP-certified nuclear density technician (NUCDENSITYTEC-I) shall identify random locations and perform the testing for both the contractor and department. The responsible certified technician shall ensure that sample location and testing is performed correctly, analyze test results, and provide density results to the contractor weekly, or at the completion of each lot.

(7) For any additional tests outside the random number testing conducted for density, the data collected will not be entered into PWL calculations. However, additional QV testing must meet the tolerances for material conformance as specified in the standard specification and this special provision. If additional density data identifies unacceptable material, proceed as specified in CMM 8-15.11.

*Replace standard spec 460.3.3.3 Waiving Density Testing with Acceptance of Density Data with the following:*

**460.3.3.3 Analysis of Density Data**

(1) Analysis of test data for pay determination will be contingent upon test results from both the contractor (QC) and the department (QV).

(2) As random density locations are paved, the data will be recorded in the HMA PWL Production Spreadsheet for analysis in chronological order. The engineer, upon completion of the analysis lot, will compare the variances (F-test) and the means (t-test) of the QV test results with the QC test results. Analysis will use a set alpha value of 0.025.

1. If the F- and t-tests indicate variances and means compare, the QC and QV data sets are determined to be statistically similar and QC data will be used for PWL and pay adjustment calculations.
2. If the F- and t-tests indicate variances or means do not compare, the QV data will be used for subsequent calculations.

(3) The department will determine mixture density conformance and acceptability by analyzing test results, reviewing mixture data, and inspecting the completed pavement according to standard spec, this special provision, and accompanying Appendix A.

(4) Density resulting in a PWL value less than 50 or not meeting the requirements of 460.3.3.1 (any individual density test result falling more than 3.0 percent below the minimum required target maximum density as specified in standard spec Table 460-3) is unacceptable and may be subject to remove and replace at no additional cost to the department, at the discretion of the engineer.

1. Replacement may be conducted on a sublot basis. If an entire PWL sublot is removed and replaced, the test results of the newly placed material will replace the original data for the sublot.
2. Testing of replaced material must include a minimum of one QV result. [Note: If the removed and replaced material does not result in replacement of original QV data, an additional QV test must be conducted and under such circumstances will be entered into the data analysis and pay determination.]
3. If the engineer allows such material to remain in place, it will be paid for at 50% of the HMA Pavement contract unit price. The extent of unacceptable material will be addressed as specified in CMM 8-15.11. The quantity of material paid at 50% the contract unit price will be deducted from PWL pay adjustments, along with accompanying data of this material.

**D Measurement**

The department will measure the HMA Pavement bid items acceptably completed by the ton as specified in standard spec 450.4 and as follows in standard spec 460.5 as modified in this special provision.

**E Payment**

*Replace standard spec 460.5.2 HMA Pavement with the following:*

**460.5.2 HMA Pavement**

**460.5.2.1 General**

(1) Payment for HMA Pavement Type LT, MT, and HT mixes is full compensation for providing HMA mixture designs; for preparing foundation; for furnishing, preparing, hauling, mixing, placing, and compacting mixture; for HMA PWL QMP testing and aggregate source testing; for warm mix asphalt additives or processes; for stabilizer, hydrated lime and liquid antistripping agent, if required; and for all materials including asphaltic materials.

(2) If provided for in the plan quantities, the department will pay for a leveling layer, placed to correct irregularities in an existing paved surface before overlaying, under the pertinent paving bid item. Absent a plan quantity, the department will pay for a leveling layer as extra work.

**460.5.2.2 Calculation of Pay Adjustment for HMA Pavement using PWL**

(1) Pay adjustments will be calculated using 65 dollars per ton of HMA pavement. The [HMA PWL Production Spreadsheet](http://wisconsindot.gov/Documents/doing-bus/eng-consultants/cnslt-rsrces/tools/qmp/hma-pwl-production-4-26-2018.xlsm), including data, will be made available to the contractor by the department as soon as practicable upon completion of each lot. The department will pay for measured quantities of mix based on this price multiplied by the following pay adjustment calculated in accordance with the [HMA PWL Production Spreadsheet](http://wisconsindot.gov/Documents/doing-bus/eng-consultants/cnslt-rsrces/tools/qmp/hma-pwl-production-4-26-2018.xlsm):

**PAY FACTOR FOR HMA PAVEMENT AIR VOIDS & DENSITY**

*PERCENT WITHIN LIMITS PAYMENT FACTOR, PF*

*(PWL) (percent of $65/ton)*

> 90 to 100 PF = ((PWL – 90) \* 0.4) + 100

> 50 to < 90 (PWL \* 0.5) + 55

<50 50%[1]

where PF is calculated per air voids and density, denoted PFair voids & PFdensity

*[1]* Any material resulting in PWL value less than 50 shall be removed and replaced unless the engineer allows such material to remain in place. In the event the material remains in place, it will be paid at 50% of the contract unit price of HMA pavement.

For air voids, PWL values will be calculated using lower and upper specification limits of 2.0 and 4.3 percent, respectively. Lower specification limits for density shall be in accordance with standard spec Table 460-3. Pay adjustment will be determined on a lot basis and will be computed as shown in the following equation.

Pay Adjustment = (PF-100)/100 x (WP) x (tonnage) x ($65/ton)\*

\*Note: If Pay Factor <50, the contract unit price will be used in lieu of $65/ton

The following weighted percentage (WP) values will be used for the corresponding parameter:

|  |  |
| --- | --- |
| Parameter | WP |
| Air Voids | 0.5 |
| Density | 0.5 |

Individual Pay Factors for each air voids (PFair voids) and density (PFdensity) will be determined. PFair voids will be multiplied by the total tonnage placed (i.e., from truck tickets), and PFdensity will be multiplied by the calculated tonnage used to pave the mainline only (i.e., travel lane excluding shoulder) as determined in accordance with Appendix A.

The department will pay incentive for air voids and density under the following bid items:

ITEM NUMBER DESCRIPTION UNIT

460.2005 Incentive Density PWL HMA Pavement DOL

460.2010 Incentive Air Voids HMA Pavement DOL

The department will administer disincentives under the Disincentive Density HMA Pavement and the Disincentive Air Voids HMA Pavement administrative items.

The department will administer a disincentive under the Disincentive HMA Binder Content administrative item for each individual QV test result indicating asphalt binder content below the Action Limit in 460.2.8.2.1.7 presented herein. The department will adjust pay per sublot of mix at 65 dollars per ton of HMA pavement multiplied by the following pay adjustment calculated according to the [HMA PWL Production Spreadsheet](http://wisconsindot.gov/Documents/doing-bus/eng-consultants/cnslt-rsrces/tools/qmp/hma-pwl-production-4-26-2018.xlsm):

|  |  |
| --- | --- |
| AC Binder Relative to JMF | Pay Adjustment / Sublot |
| -0.4% to -0.5% | 75% |
| More than -0.5% | 50%[1] |

*[1]* Any material resulting in an asphalt binder content more than 0.5% below the JMF AC content shall be removed and replaced unless the engineer allows such material to remain in place. In the event the material remains in place, it will be paid at 50% of the contract unit price of HMA pavement. Such material will be referee tested by the department’s AASHTO accredited laboratory and HTCP certified personnel using automated extraction according to automated extraction according to ASTM D8159 as modified in CMM 8-36.6.3.1.

Note: PWL value determination is further detailed in the *Calculations* worksheet of the [HMA PWL Production spreadsheet](http://wisconsindot.gov/Documents/doing-bus/eng-consultants/cnslt-rsrces/tools/qmp/hma-pwl-production-4-26-2018.xlsm).

stp-460-050 (20191121)

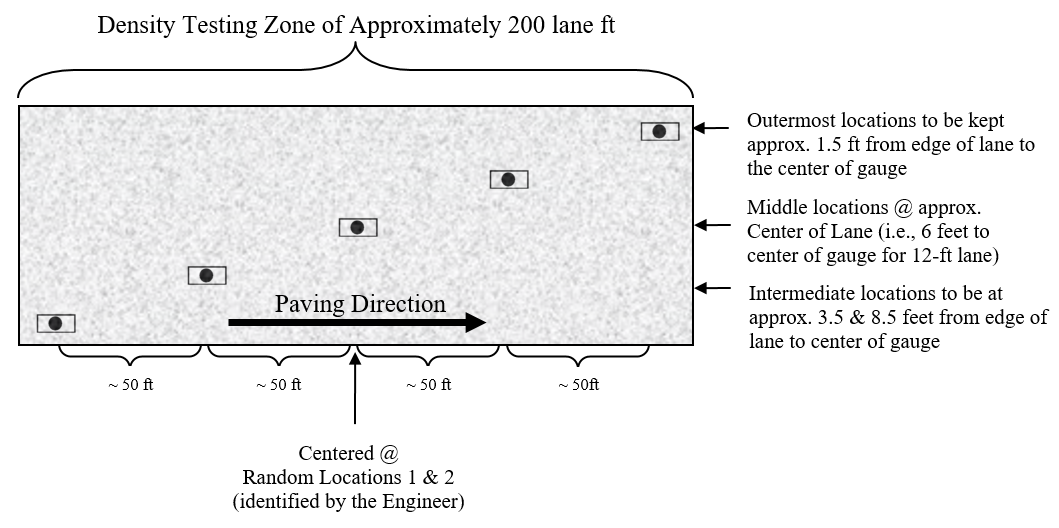
**Appendix A**

**Test Methods & Sampling for HMA PWL QMP Projects.**

The following procedures are included with the HMA Pavement Percent Within Limits (PWL) Quality Management Program (QMP) special provision:

* WisDOT Procedure for Nuclear Gauge/Core Correlation – Test Strip
  + WisDOT Test Method for HMA PWL QMP Density Measurements for Main Production
  + Sampling for WisDOT HMA PWL QMP
  + Calculation of PWL Mainline Tonnage Example

**WisDOT Procedure for Nuclear Gauge/Core Correlation – Test Strip**



**Figure 1: Nuclear/Core Correlation Location Layout**

The engineer will identify two zones in which gauge/core correlation is to be performed. These two zones will be randomly selected within each *half* of the test strip length. (Note: Density zones shall not overlap and must have a minimum of 100 feet between the two zones; therefore, random numbers may be shifted (evenly) in order to meet these criteria.) Each zone shall consist of five locations across the mat as identified in Figure 1. The following shall be determined at each of the five locations within both zones:

- two one-minute nuclear density gauge readings for QC team\*

- two one-minute nuclear density gauge readings for QV team\*

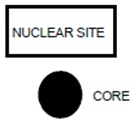
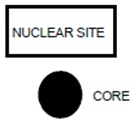
- pavement core sample

\*If the two readings exceed 1.0 pcf of one another, a third reading is conducted in the same orientation as the first reading. In this event, all three readings are averaged, the individual test reading of the three which falls farthest from the average value is discarded, and the average of the remaining two values is used to represent the location for the gauge.

The zones are supposed to be undisclosed to the contractor/roller operators. The engineer will not lay out density/core test sites until rolling is completed and the cold/finish roller is beyond the entirety of the zone. Sites are staggered across the 12-foot travel lane, and do not include shoulders. The outermost locations should be 1.5-feet from the center of the gauge to the edge of lane. [NOTE: This staggered layout is only applicable to the test strip. All mainline density locations after test strip should have a longitudinal- as well as transverse-random number to determine location as detailed in the *WisDOT Test Method for HMA PWL QMP Density Measurements for Main Production* section of this document.]



Individual locations are represented by the symbol as seen in Figure 1 above. The symbol is two-part, comprised of the nuclear test locations and the location for coring the pavement, as distinguished here:



The nuclear site is the same for QC and QV readings for the test strip, i.e., the QC and QV teams are to take nuclear density gauge readings in the same footprint. Each of the QC and QV teams are to take a minimum of two one-minute readings per nuclear site, with the gauge rotated 180 degrees between readings, as seen here:

1. (b)

**Figure 2: Nuclear gauge orientation for (a) 1st one-minute reading and (b) 2nd one-minute reading**

Photos should be taken of each of the 10 core/gauge locations of the test strip. This should include gauge readings (pcf) and a labelled core within the gauge footprint. If a third reading is needed, all three readings should be recorded and documented. Only raw readings in pcf should be written on the pavement during the test strip, with a corresponding gauge ID/SN (generalized as QC-1 through QV-2 in the following Figure) in the following format:



**Figure 3: Layout of raw gauge readings as recorded on pavement**

Each core will then be taken from the center of the gauge footprint and will be used to correlate each gauge with laboratory-measured bulk specific gravities of the pavement cores. One core in good condition must be obtained from each of the 10 locations. If a core is damaged at the time of extracting from the pavement, a replacement core should be taken immediately adjacent to the damaged core, i.e., from the same footprint. If a core is damaged during transport, it should be recorded as damaged and excluded from the correlation. Coring after traffic is on the pavement should be avoided. The contractor is responsible for coring of the pavement. Coring and filling of core holes must be approved by the engineer. The QV team is responsible for the labeling and safe transport of the cores from the field to the QC laboratory. Core density testing will be conducted by the contractor and witnessed by department personnel. The contractor is responsible for drying the cores following testing. The department will take possession of cores following initial testing and is responsible for any verification testing.

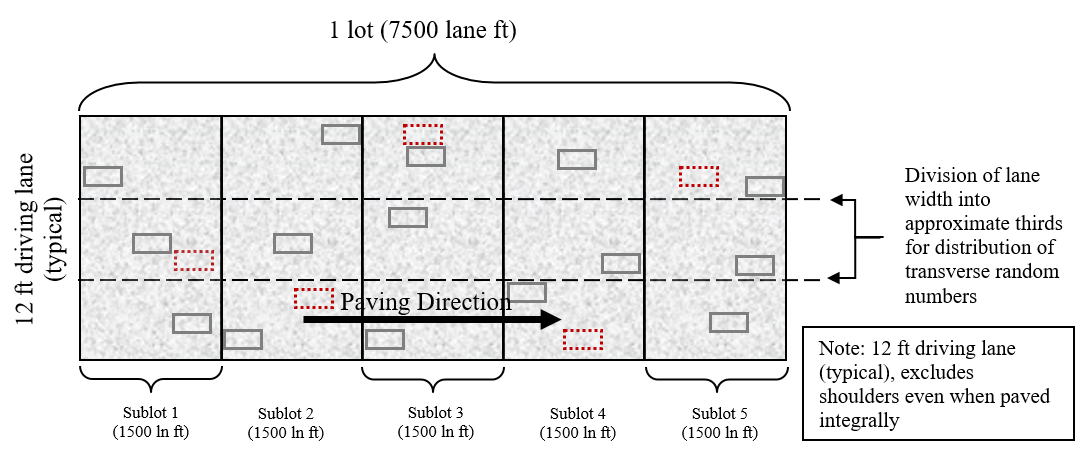
Each core 150 mm (6 inches) in diameter will be taken at locations as identified in Figure 1. Each random core will be full thickness of the layer being placed. The contractor is responsible for thoroughly drying cores obtained from the mat in accordance with ASTM D 7227 prior to using specimens for in-place density determination in accordance with AASHTO T 166 as modified by CMM 8-36.6.5.

Cores must be taken before the pavement is open to traffic. Cores are cut under department/project staff observation. Relabel each core immediately after extruding or ensure that labels applied to pavement prior to cutting remain legible. The layer interface should also be marked immediately following extrusion. Cores should be cut at this interface, using a wet saw, to allow for density measurement of only the most recently placed layer. Cores should be protected from excessive temperatures such as direct sunlight. Also, there should be department custody (both in transport and storage) for the cores until they are tested, whether that be immediately after the test strip or subsequent day if agreed upon between Department and Contractor. Use of concrete cylinder molds works well to transport cores. Cores should be placed upside down (flat surface to bottom of cylinder mold) in the molds, one core per mold, cylinder molds stored upright, and ideally transported in a cooler. Avoid any stacking of pavement cores.

Fill all core holes with non-shrink rapid-hardening grout, mortar, or concrete, or with HMA. When using grout, mortar, or concrete, remove all water from the core holes prior to filling. Mix the mortar or concrete in a separate container prior to placement in the hole. If HMA is used, fill all core holes with hot-mix matching the same day’s production mix type at same day compaction temperature +/- 20 F. The core holes shall be dry and coated with tack before filling, filled with a top layer no thicker than 2.25 inches, lower layers not to exceed 4 inches, and compacted with a Marshall hammer or similar tamping device using approximately 50 blows per layer. The finished surface shall be flush with the pavement surface. Any deviation in the surface of the filled core holes greater than 1/4 inch at the time of final inspection will require removal of the fill material to the depth of the layer thickness and replacement.

**WisDOT Test Method for HMA PWL QMP Density Measurements for Main Production**

For nuclear density testing of the pavement beyond the test strip, QC tests will be completed at three locations per sublot, with a sublot defined as 1500 lane feet. The three locations will represent the outside, middle, and inside of the paving lane (i.e., the lane width will be divided into thirds as shown by the dashed longitudinal lines in Figure 3 and random numbers will be used to identify the specific transverse location within each third in accordance with CMM 8-15). Longitudinal locations within each sublot shall be determined with 3 independent random numbers. The PWL Density measurements do not include the shoulder and other appurtenances. Such areas are tested by the department and are not eligible for density incentive or disincentive. Each location will be measured with two one-minute gauge readings oriented 180 degrees from one another, in the same footprint as detailed in Figure 2 above. Each location requires a minimum of two readings per gauge. The density gauge orientation for the first test will be with the source rod towards the direction of paving. QV nuclear testing will consist of one randomly selected location per sublot. The QV is also comprised of two one-minute readings oriented 180 degrees from one another. For both QC and QV test locations, if the two readings exceed 1.0 pcf of one another, a third reading is conducted in the same orientation as the first reading. In this event, all three readings are averaged, the individual test reading of the three which falls farthest from the average value is discarded, and the average of the remaining two values is used to represent the location for the gauge. The sublot density testing layout is depicted in Figure 4, with QC test locations shown as solid lines and QV as dashed.



**Figure 4: Locations of main lane HMA density testing (QC=solid lines, QV=dashed)**

QC and QV nuclear density gauge readings will be statistically analyzed in accordance with Section 460.3.3.3 of the HMA PWL QMP SPV. (Note: For density data, if F- and t-tests compare, QC data will be used for the subsequent calculations of PWL value and pay determination. However, if an F- or t-test does not compare, the QV data will be used in subsequent calculations.)

Perform footprint testing as soon as both the QC and QV nuclear density technician are onsite and a minimum of once per day to ensure the gauges are not drifting apart during a project. Footprint testing compares the density readings of two gauges at the same testing location and can be done at any randomly selected location on the project. Each gauge conducts 2 to 3 1-minute tests according to CMM 8-15 and the final results from each gauge are compared for the location. If the difference between the QC and QV gauges exceeds 1.0 pcf (0.7 percent) investigate the cause, check gauge moisture and density standards and perform a second footprint test. If the cause of the difference between gauge readings cannot be identified, the regional HMA Coordinator will use their gauge to investigate the situation with the QC and QV personnel, with the consultation of the RSO, to determine necessary actions. Both teams are encouraged to conduct footprint testing as often as they feel necessary.

**Sampling for WisDOT HMA PWL QMP Production**

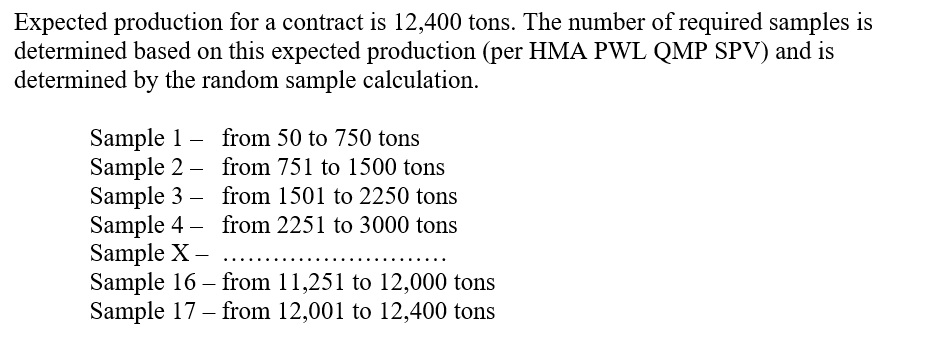
Sampling of HMA mix for QC, QV and Retained samples shall conform to CMM 8-36 except as modified here.

*Delete CMM 8-36.4 Sampling Hot Mix Asphalt and replace with the following to update sublot tonnages:*

**Sampling Hot Mix Asphalt**

At the beginning of the contract, the contractor determines the anticipated tonnage to be produced. The frequency of sampling is 1 per 750 tons (sublot) for QC and Retained Samples and 1 per 3750 tons (lot or 5 sublots) for QV as defined by the HMA PWL QMP SPV. A test sample is obtained randomly from each sublot. Each random sample shall be collected at the plant according to CMM 8-36.4.1 and 8-36.4.2. The contractor must submit the random numbers for all mix sampling to the department before production begins.

*Example 1*



The approximate location of each sample within the prescribed sublots is determined by selecting random numbers using ASTM Method D-3665 or by using a calculator or computerized spreadsheet that has a random number generator. The random numbers selected are used in determining when a sample is to be taken and will be multiplied by the sublot tonnage. This number will then be added to the final tonnage of the previous sublot to yield the approximate cumulative tonnage of when each sample is to be taken.

To allow for plant start-up variability, the procedure calls for the first random sample to be taken at 50 tons or greater per production day (not intended to be taken in the first two truckloads). Random samples calculated for 0-50 ton should be taken in the next truck (51-75 ton).

This procedure is to be used for any number of samples per contract.

If the production is less than the final randomly generated sample tonnage, then the random sample is to be collected from the remaining portion of that sublot of production. If the randomly generated sample is calculated to be within the first 0-50 tons of the subsequent day of production, it should be taken in the next truck. Add a random sample for any fraction of 750 tons at the end of the contract. Lot size will consist of 3750 tons with sublots of 750 tons. Partial lots with less than three sublot tests will be included into the previous lot, by the engineer.

It’s intended that the plant operator not be advised ahead of time when samples are to be taken.

If belt samples are used during troubleshooting, the blended aggregate will be obtained when the mixture production tonnage reaches approximately the sample tonnage. For plants with storage silos, this could be up to 60 minutes in advance of the mixture sample that’s taken when the required tonnage is shipped from the plant.

QC, QV, and retained samples shall be collected for all test strip and production mixture testing using a three-part splitting procedure according to CMM 8-36.5.2.

**Calculation of PWL Mainline Tonnage Example**

A mill and overlay project in being constructed with a 12-foot travel lane and an integrally paved 3-foot shoulder. The layer thickness is 2 inches for the full width of paving. Calculate the tonnage in each sublot eligible for density incentive or disincentive.

**Solution:**

stp-460-055 (20191121)

When specifying this item, only use in conjunction with HMA Pavement Percent Limits (PWL) QMP. Designers should not specify joint heaters, echelon paving, wedge joint removal, or other specified joint treatments.

When estimating the quantity for 460.2007 Incentive Density HMA Pavement Longitudinal Joints, multiply the length of the applicable joints – as defined in Section 1A herein – by 2 (for both sides of the joint) and then multiply by $0.20 (average incentive is anticipated to be about half of the $0.40 maximum incentive).

1. HMA Pavement Longitudinal Joint Density.

**A Description**

This special provision incorporates longitudinal joint density requirements into the contract and describes the data collection, acceptance, and procedure used for determination of pay adjustments for HMA pavement longitudinal joint density. Pay adjustments will be made on a linear foot basis, as applicable per pavement layer and paving lane. Applicable longitudinal joints are defined as those between any two or more traffic lanes including full-width passing lanes, turn lanes, or auxiliary lanes more than 1500 lane feet. This excludes any joint with one side defined as a shoulder and ramp lanes of any length. Longitudinal joints placed during a test strip will be tested for information only to help ensure the roller pattern will provide adequate longitudinal joint density during production. Longitudinal joint density test results collected during a test strip are not eligible for pay adjustment.

Pay is determined according to standard spec 460, HMA Pavement Percent Within Limits QMP special provisions, and as modified within.

**B Materials**

*Revise standard spec 460.3.3.1(1) table 460-3 by adding footnotes [6] & [7]:*

TABLE 460-3 MINIMUM REQUIRED DENSITY*[1][6][7]*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| LOCATION | LAYER | PERCENT OF TARGET MAXIMUM DENSITY | | |
| MIXTURE TYPE | | |
| LT and MT | HT | SMA*[5]* |
| TRAFFIC LANES*[2]* | LOWER | 93.0*[3]* | 93.0*[4]* | \_\_\_ |
| UPPER | 93.0 | 93.0 | \_\_\_ |
| SHOULDERS & APPURTENANCES | LOWER | 91.0 | 91.0 | \_\_\_ |
| UPPER | 92.0 | 92.0 | \_\_\_ |

*[1]* The table values are for average lot density. If any individual density test result falls more than 3.0 percent below the minimum required target maximum density, the engineer will investigate the acceptability of that material according to 460.3.3.2 as modified herein.

*[2]* Includes side roads, crossovers, turn lanes, ramps, parking lanes, and bike lanes as determined by the engineer.

*[3]* Minimum reduced by 2.0 percent for a lower layer constructed directly on crushed aggregate or recycled base courses.

*[4]* Minimum reduced by 1.0 percent for a lower layer constructed directly on crushed aggregate or recycled base courses.

*[5]* The minimum required densities for SMA mixtures are determined according to [CMM 8‑15.](http://wisconsindot.gov/rdwy/cmm/cm-08-15.pdf#cm8-15)

*[6]* Minimum reduced by 1.5 percent at longitudinal joint with lateral confinement (i.e., confined)

*[7]* Minimum reduced by 3.0 percent at longitudinal joint having no lateral confinement (i.e., unconfined)

**C Construction**

*Add the following to standard spec 460.3.3.2:*

(5) Establish companion density locations at each applicable joint. Each companion location shares longitudinal stationing with a QC or QV density location within each sublot and is located transversely with the center of the gauge 6-inches from the final joint edge of the paving area. Sublot and lot numbering remains the same as mainline densities, however, in addition to conventional naming, joint identification must clearly indicate “M” for inside/median side of lane or “O” for outside shoulder side of lane, as well as “U” for an unconfined joint or “C” for a confined joint (e.g., XXXXX-MC or XXXXX-OU).

(6) Each joint will be measured, reported, and accepted under methods, testing times, and procedures consistent with the program employed for mainline density, i.e., PWL.

(7) For single nuclear density test results greater than 3.0% below specified minimums, the department will perform the following per [standard spec 460.3.3.1](http://wisconsindot.gov/rdwy/stndspec/ss-04-60.pdf#ss460) as modified here within:

1. Testing at 50-foot increments both ahead and behind the unacceptable site
2. Continued 50-foot incremental testing until test values indicate higher than or equal to ‑3.0 percent from target joint density.
3. Materials within the incremental testing indicating lower than -3.0 percent from target joint density are defined as unacceptable, and will be handled with remedial action as defined in the payment section of this document.
4. The remaining sublot average (exclusive of unacceptable material) will be determined by the first forward and backward 50 foot incremental tests that reach the criteria of higher than or equal to -3.0 percent from target joint density.

Note: If the 50-foot testing extends into a previously accepted sublot, remedial action is required up to and inclusive of such material; however, the results of remedial action must not be used to recalculate the previously accepted sublot density. When this occurs, the lane feet of any unacceptable material will be deducted from the sublot in which it is located, and the previously accepted sublot density will be used to calculate pay for the remainder of the sublot.

(8) Joint density measurements will be kept separate from all other density measurements, and entered as an individual data set into Atwood Systems.

(9) Placement and removal of excess material outside of the final joint edge, to increase joint density at the longitudinal joint nuclear testing location, will be done at the contractor’s discretion and cost. This excess material and related labor will be considered waste and will not be paid for by the department. Joints with excess material placed outside of the final joint edge to increase joint density or where a notched wedge is used will be considered unconfined joints. Inlay paving operations (e.g. where one lane is milled and paved prior to the adjacent lane being milled and paved) will limit payment for additional material to 2 inches wider than the final paving lane width at the centerline and will be considered confined joints.

(10) If echelon paving is performed at the contractor’s description to increase longitudinal joint density, additional cost related to echelon paving will not be paid for by the department. The joint between echelon paving lanes will be placed at the centerline and both sides of the joint will be considered confined joints.

**D Measurement**

(1) The department will measure each side of applicable longitudinal joints, as defined in Section A of this special provision, by the linear foot of pavement acceptably placed. Measurement will be conducted independently for the inside or median side and for the outside or shoulder side of paving lanes with two applicable longitudinal joints. Each paving layer will be measured independently.

**E Payment**

*Add the following as standard spec 460.5.2.4 Pay Adjustment for HMA Pavement Longitudinal Joint Density:*

(1) The department will administer longitudinal joint density adjustments under the Incentive Density HMA Pavement Longitudinal Joints and Disincentive Density HMA Pavement Longitudinal Joints items. The department will adjust pay based on density relative to the specified targets in Section B of this special provision, and linear foot of the HMA Pavement bid item for that sublot as follows:

**PAY ADJUSTMENT FOR HMA PAVEMENT LONGITUDINAL JOINT DENSITY**

PERCENT SUBLOT DENSITY PAY ADJUSTMENT PER LINEAR FOOT

ABOVE/BELOW SPECIFIED MINIMUM

Equal to or greater than +1.0 confined, +2.0 unconfined $0.40

From 0.0 to +0.9 confined, 0.0 to +1.9 unconfined $0

From -0.1 to -1.0 $(0.20)

From -1.1 to -2.0 $(0.40)

From -2.1 to -3.0 $(0.80)

More than -3.0 *REMEDIAL ACTION[1]*

*[1]* Remedial action must be approved by the engineer and agreed upon at the time of the pre-pave meeting and may include partial sublots as determined and defined in 460.3.3.2(7) of this document. If unacceptable material is removed and replaced per guidance by the engineer, the removal and replacement will be for the full lane width of the side of which the joint was constructed with unacceptable material.

(2) The department will not assess joint density disincentives for pavement placed in cold weather because of a department-caused delay as specified in [standard spec 450.5.2(3).](http://wisconsindot.gov/rdwy/stndspec/ss-04-50.pdf#ss450)

(3) The department will not pay incentive on the longitudinal joint density if the traffic lane is in disincentive A disincentive may be applied for each mainline lane and all joint densities if both qualify for a pay reduction.

The department will pay incentive for longitudinal joint density under the following bid items:

|  |  |  |
| --- | --- | --- |
| ITEM NUMBER | DESCRIPTION | UNIT |
| 460.2007 | Incentive Density HMA Pavement Longitudinal Joints | DOL |

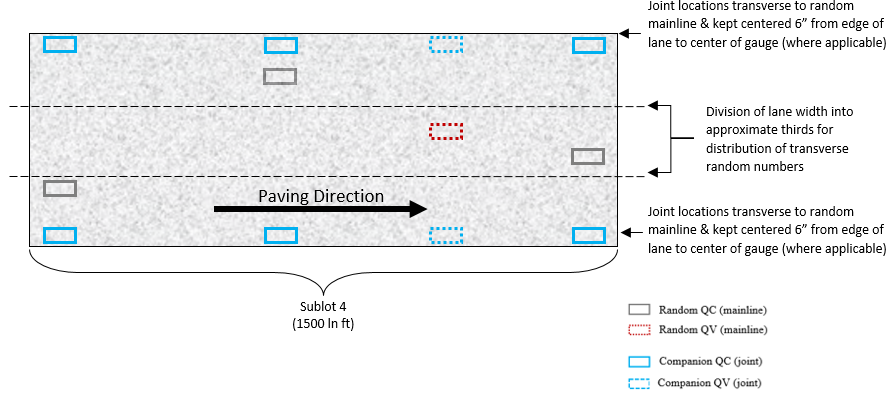
The department will administer disincentives under the Disincentive Density HMA Pavement Longitudinal Joints administrative item.

**Appendix**

**WisDOT Longitudinal Joint – Nuclear Gauge Density Layout**

Each QC and QV density location must have a companion density location at any applicable joint. This companion location must share longitudinal stationing with each QC or QV density location and be located transversely with the center of the gauge 6-inches from the edge of the paving area.

**For HMA Pavement Percent Within Limits QMP projects**, this appears as follows:



**Further Explanation of *PAY ADJUSTMENT FOR HMA PAVEMENT LONGITUDINAL JOINT DENSITY* Table**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Confined** | | | |  |
|  | **Lower Layer (On Base)** | | **Upper Layer** | |  |
|  | **LT/MT** | **HT** | **LT/MT** | **HT** | **Pay Adjust** |
| Mainline Target (SS 460-3) | 91.0 | 92.0 | 93.0 | 93.0 | - |
| Confined Target (mainline - 1.5) | 89.5 | 90.5 | 91.5 | 91.5 | - |
| Equal to or greater than +1.0 | > 90.5 | > 91.5 | > 92.5 | > 92.5 | $0.40 |
| From 0.0 to +0.9 | 90.4 - 89.5 | 91.4 - 90.5 | 92.4 - 91.5 | 92.4 - 91.5 | $0 |
| From -0.1 to -1.0 | 89.4 - 88.5 | 90.4 - 89.5 | 91.4 - 90.5 | 91.4 - 90.5 | ($0.20) |
| From -1.1 to -2.0 | 88.4 - 87.5 | 89.4 - 88.5 | 90.4 - 89.5 | 90.4 - 89.5 | ($0.40) |
| From -2.1 to -3.0 | 87.4 - 86.5 | 88.4 - 87.5 | 89.4 - 88.5 | 89.4 - 88.5 | ($0.80) |
| More than -3.0 | < 86.5 | < 87.5 | < 88.5 | < 88.5 | REMEDIAL ACTION |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  | **Unconfined** | | | |  |
|  | **Lower Layer (On Base)** | | **Upper Layer** | |  |
|  | **LT/MT** | **HT** | **LT/MT** | **HT** | **Pay Adjust** |
| Mainline Target (SS 460-3) | 91.0 | 92.0 | 93.0 | 93.0 | - |
| Unconfined Target (Mainline -3.0) | 88.0 | 89.0 | 90.0 | 90.0 | - |
| Equal to or greater than +2.0 | > 90.0 | > 91.0 | > 92.0 | > 92.0 | $0.40 |
| From 0.0 to +1.9 | 89.9 - 88.0 | 90.9 - 89.0 | 91.9 - 90.0 | 91.9 - 90.0 | $0 |
| From -0.1 to -1.0 | 87.9 - 87.0 | 88.9 - 88.0 | 89.9 - 89.0 | 89.9 - 89.0 | ($0.20) |
| From -1.1 to -2.0 | 86.9 - 86.0 | 87.9 - 87.0 | 88.9 - 88.0 | 88.9 - 88.0 | ($0.40) |
| From -2.1 to -3.0 | 85.9 - 85.0 | 86.9 - 86.0 | 87.9 - 87.0 | 87.9 - 87.0 | ($0.80) |
| More than -3.0 | < 85.0 | < 86.0 | < 87.0 | < 87.0 | REMEDIAL ACTION |

stp-460-075 (20200629)

1. Cold Patch, Item 495.1000.S.

A Description

This special provision describes furnishing cold patch and filling potholes and other voids in existing pavement surfaces as the engineer directs.

B Materials

Furnish a mixture of course aggregate, natural sand, and MC-250 bituminous material designed to have a workability range of 15-100º F without heating. Ensure that the mixture:

- Adheres to wet surfaces.

- Resists damage from water, salt, and deicing products.

- Requires no mixing or special handling before use.

- Supports traffic immediately after placement and compaction.

Conform to the following gradation:

SIEVE SIZE PERCENT PASSING (by weight)

1/2-inch (12.5 mm) 100

3/8-inch (9.5 mm) 90 - 100

No. 4 (4.75 mm) 90 max

No. 8 (2.38 mm) 20 - 65

No. 200 (0.074 mm) 2 - 10

Bitumen 4.8 - 5.4

The department will accept cold patch based primarily on the engineer's visual inspection. The department may also test for gradation.

C Construction

Stockpile cold patch on site on a smooth, firm, well-drained area cleared of vegetation and foreign material. Cover the stockpile and ensure that it is easily accessible. Replenish the stockpile throughout the project duration but limit the size at any given time to 10 tons on site unless the engineer approves otherwise. Dispose of unused material at project completion unless the engineer directs otherwise.

Place cold patch by hand. Remove ponded water and loose debris before placement. Compact flush with a tamper, roller, or vehicle tire after placement.

Refill patched areas as necessary to maintain a flush pavement surface until project completion.

D Measurement

The department will measure Cold Patch by the ton, acceptably stockpiled on site.

E Payment

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

ITEM NUMBER DESCRIPTION UNIT

495.1000.S Cold Patch TON

Payment for Cold Patch is full compensation for providing and maintaining patches; for furnishing and replenishing stockpiled material on-site; and for disposing of excess material at project completion.

stp-495-010 (20160607)

1. Expansion Device, Item 502.3101.

A Description

This special provision describes furnishing and installing an expansion device as the plans show conforming to standard spec 502 as modified in this special provision.

B Materials

The minimum thickness of the polychloroprene strip seal shall be 1/4 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 | 55 ± 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*[1]*** |  |
| **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 | ----- | ----- |

*[1]* Expansion device strip seal gland size requirement of 4", 5", and 6" shall be as the plans show.

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.

stp-502-020 (20200629)

1. Removing Bearings, B-64-31, Item 506.7050.S.

A Description

This special provision describes raising the girders and removing the existing bearings, as the plans show.

B (Vacant)

C Construction

Raise the structure’s girders and remove the existing bearings as the plans show

Obtain prior approval from the engineer for the method of jacking the girders and of supporting them as required.

D Measurement

The department will measure Removing Bearings B-64-31 by the unit for each bearing removed, 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

506.7050.S Removing Bearings, B-64-31 EACH

Payment is full compensation for raising the bridge girders; and for removing the old bearings.

Cost of furnishing and installing the bearings will be paid for under separate bid items.

stp-506-035 (20130615)

1. Polymer Overlay, Item 509.5100.S.

A Description

This special provision describes providing two layers of a two-component polymer overlay system to the bridge decks the plans show.

B Materials

B.1 General

Furnish materials specifically designed for use over concrete bridge decks. Furnish polymer liquid binders from the department’s approved product list.

B.2 Polymer Resin

Furnish a polymer resin base and hardener composed of two-component, 100 percent solids, 100 percent reactive, thermosetting compound with the following properties:

|  |  |  |
| --- | --- | --- |
| **Property** | **Requirements** | **Test Method** |
| Gel Time*[1]* | 15 - 45 minutes @  73° to 75° F | ASTM C881 |
| Viscosity*[1]* | 7 - 70 poises | ASTM D2393, Brookfield RVT, Spindle No. 3, 20 rpm |
| Shore D Hardness*[2]* | 60-75 | ASTM D2240 |
| Absorption*[2]* | 1% maximum at 24 hr | ASTM D570 |
| Tensile Elongation*[2]* | 30% - 70% @ 7 days | ASTM D638 |
| Tensile Strength*[2]* | 2000 to 5000 psi @ 7 days | ASTM D638 |
| Chloride Permeability*[2]* | <100 coulombs @ 28 days | AASHTO T277 |

*[1]* Uncured, mixed polymer binder

*[2]* Cured, mixed polymer binder

Ensure that the polymer resin when mixed with aggregate has the following properties:

|  |  |  |
| --- | --- | --- |
| **Property** | **Requirement*[1]*** | **Test Method** |
| Minimum Compressive  Strength | 1,000 psi @ 8 hrs  5,000 psi @ 24 hrs | ASTM C579 Method B,  Modified*[2]* |
| Thermal Compatibility | No Delaminations | ASTM C884 |
| Minimum Pull-off Strength | 250 psi @ 24 hrs | ASTM C1583 |

*[1]* Based on samples cured or aged and tested at 75°F

*[2]* Plastic inserts that will provide 2-inch by 2-inch cubes shall be placed in the oversized brass molds.

B.3 Aggregates

Furnish natural or synthetic aggregate that is non-polishing; clean; free of surface moisture; fractured or angular in shape; free from silt, clay, asphalt, or other organic materials; and conform to the following:

Aggregate Properties

|  |  |  |
| --- | --- | --- |
| **Property** | **Requirement** | **Test Method** |
| Moisture Content*[1]* | 1/2 of the measured aggregate absorption, % | ASTM C566 |
| Hardness | >6.5 | Mohs Scale |
| Fractured Faces | 100% with at least 1 fractured face & 80% with at least 2 fractured faces of material retained on No.16 | ASTM D5821 |
| Absorption | <1% | ASTM C128 |

*[1]* Sampled and tested by the department before placement.

Gradation

|  |  |
| --- | --- |
| **Sieve Size** | **% Passing by Weight** |
| No. 4 | 100 |
| No. 8 | 30 – 75 |
| No. 16 | 0 – 5 |
| No. 30 | 0 – 1 |

B.4 Approval of Bridge Deck Polymer Overlay System

A minimum of 20 working days before application, submit product data sheets and specifications from the manufacturer, and a certified report of test or analysis from an independent laboratory to the engineer for approval. The department will sample and test the aggregates for gradation and moisture content before placement. If requested, supply the department with samples of the polymer for the purpose of acceptance testing.

B.4.1 Product Data Sheets and Specifications

Product data sheets and specifications from the manufacture consists of literature from the manufacturer showing general instructions, application recommendations/methods, product properties, general instructions, or any other applicable information.

B.4.2 Certified Report of Test or Analysis

Conform to the following:

*Polymer Binder:* Submit a certified report of test or analysis from an independent laboratory dated less than 3 years before the date of the project letting showing the polymer binder meets the requirements of section B.2.

*Aggregates:* Submit a certified report of test or analysis from an independent laboratory dated less than 6 months before the date of the project letting showing the aggregates meet the requirements of section B.3.

C Construction

C.1 General

Ensure that the overlay system is 1/4 inch thick or thicker.

Conform to the following:

*Field Review:* Conduct a field review of the existing deck to identify any possible surface preparation and material compatibility issues.

*Pre-Installation Meeting*: Conduct a pre-installation meeting with the manufacturer's representative and the engineer before construction. Discuss the field review findings, verification testing of the surface preparation and establish procedures for maintaining optimum working conditions and coordination of work. Furnish the engineer a copy of the recommended procedures and apply the overlay system according to the manufacturer’s instructions. Supply for the engineer’s use for the duration of the project, a Concrete Surface Profile (CSP) chip set of 10 from the International Concrete Repair Institute (ICRI).

*Manufacturer’s Representative:* An experienced manufacturer's representative familiar with the overlay system installation procedures shall be present at all times during surface preparation and overlay placement to provide quality assurance that the work is being performed properly. This requirement may be reduced at the engineer’s discretion.

*Material Storage:* Store and handle materials according to the manufacturer’s recommendations. Store resin materials in their original containers in a dry area. Store all aggregates in a dry environment and protect aggregates from contaminants on the job site.

C.2 Deck Preparation

C.2.1 Deck Repair

Remove all asphaltic patches and unsound or disintegrated areas of the concrete decks as the plans show, or as the engineer directs. Work performed to remove and repair the concrete deck will be paid for under other items.

Use deck patching products that are compatible with the overlay system. Patching materials with magnesium phosphate shall not be used. Place patches after surface is prepared via shot blasting and cleaning as described in Section C.2.2 of this specification. Portland cement concrete patches shall be used for joint repairs and full depth deck repairs with a plan area larger than 4 sf, unless approved otherwise by the Structures Design Section. If rapid-set concrete is used, place patches per the manufacturer’s recommendation. If Portland cement concrete is used, place patches per standard spec 509.3.9.1.

Deck patching shall be filled and properly finished prior to overlay placement. Do not place overlay less than 1 hour, or per the manufacturer’s recommendation, after placing rapid-set concrete patches in the repair areas. Do not place overlay less than 28 days after placing Portland cement concrete patches in the repair areas.

C.2.2 Surface Preparation

Determine an acceptable shotblasting machine operation (size of shot, flow of shot, forward speed, and/or number of passes) that provides a surface profile meeting CSP 5 (medium-heavy shotblast) according to the ICRI Technical Guideline No. 310.2. If the engineer requires additional verification of the surface preparation, test the tensile bond strength according to ASTM C1593. The surface preparation will be considered acceptable if the tensile bond strength is greater than or equal to 250 psi or the failure area at a depth of 1/4 inches or more is greater than 50 percent of the test area. Continue adjustment of the shotblasting machine and necessary testing until the surface is acceptable to the engineer or a passing test result is obtained.

Prepare the entire deck using the final accepted adjustments to the shotblasting machine as determined above. Thoroughly blast clean with hand-held equipment any areas inaccessible by the shotblasting equipment. Do not perform surface preparation more than 24 hours before the application of the overlay system.

Protect drains, expansion joints, access hatches, or other appurtenances on the deck from damage by the shot and sand blasting operations and from materials adhering and entering. Tape or form all construction joints to provide a clean straight edge.

Before shot blasting, remove pavement markings within the treatment area using an approved mechanical or blasting method.

Prepare the vertical concrete surfaces adjacent to the deck a minimum of 2” above the overlay according to SSPC-SP 13 (free of contaminants, dust, and loose concrete) by sand blasting, using wire wheels, or other approved method.

Just before overlay placement, clean all dust, debris, and concrete fines from the prepared surfaces including the vertical surfaces with compressed air. When using compressed air, the air stream must be free of oil. Any grease, oil, or other foreign matter that rests on or has absorbed into the concrete shall be removed completely. If prepared surfaces (including the first layer of the polymer overlay) are exposed to rain or dew, lightly sandblast (brush/breeze blast) the exposed surfaces.

The engineer may consider alternate surface preparation methods per the overlay system manufacture’s recommendations. The engineer will approve the final surface profile and deck cleanliness before the contractor placing the polymer overlay.

C.2.3 Transitional Area

If the plans show, create a transitional area approaching transverse expansion joints and ends of the deck using an approved mechanical or blasting method. Remove 1/4 inch to 5/16 inch of concrete adjacent to the joint or end of deck and taper a distance of 3 feet.

If the plans show, create a transitional area on the approach pavement. Prep and place the first lift 3 feet beyond the end of the deck the same width as the deck. Prep and place the second lift 6 feet beyond the end of the deck the same width as the deck.

C.3 Overlay Application

Perform the handling and mixing of the polymer resin and hardening agent in a safe manner to achieve the desired results according to the manufacturer’s instructions. Do not apply the overlay system if any of the following exists:

1. Ambient air temperature is below 50F or above 100F.

2. Deck temperature is below 50F.

3. Moisture content in the deck exceeds 4.5 percent when measured by an electronic moisture meter or shows visible moisture after 2 hours when measured in accordance with ASTM D4263.

4. Rain is forecasted during the minimum curing periods listed under C.5.

5. Materials component temperatures below 65F or above 99F.

6. Concrete deck age is less than 28 days.

7. The deck temperature exceeds 100F.

8. If the gel time is 10 minutes or less at the predicted high air temperature for the day.

After the deck has been shotblasted or during the overlay curing period, only necessary surface preparation and overlay application equipment will be allowed on the deck. Provide appropriate protective measures to prevent contamination from equipment allowed on the deck during preparation and application operations. Begin overlay placement as soon as possible after surface preparation operations.

The polymer overlay shall consist of a two-course application of polymer and aggregate. Each of the two courses shall consist of a layer of polymer covered with a layer of aggregate in sufficient quantity to completely cover the polymer. Apply the polymer and aggregate according to the manufacturer’s requirements. Apply the overlay using equipment designed for this purpose. The application machine shall feature positive displacement volumetric metering and be capable of storing and mixing the polymer resins at the proper mix ratio. Disperse the aggregate using a method that provides a uniform, consistent coverage of aggregate and minimizes aggregate rolling or bouncing into final position. First course applications that do not receive enough aggregate before the polymer gels shall be removed and replaced. A second course applied with insufficient aggregate may be left in place, but will require additional applications before opening to traffic.

After completion of each course, cure the overlay according to the manufacturer’s instructions. Follow the minimum cure times listed under C.5 or as prescribed by the manufacturer. Remove the excess aggregate from the surface treatment by sweeping, blowing, or vacuuming without tearing or damaging the surface; the material may be re-used if approved by the engineer and manufacturer. Apply all courses of the overlay system before opening the area to traffic. Do not allow equipment or traffic on the treated area until directed by the engineer.

After the first layer of coating has cured to the point where the aggregate cannot be pulled out, apply the second layer. Before applying the second layer, broom and blow off the first layer with compressed air to remove all loose excess aggregate.

Before opening to traffic, clean expansion joints and joint seals of all debris and polymer. A minimum of 3 days following opening to traffic, remove loosened aggregates from the deck, expansion joints, and approach pavement.

C.4 Application Rates

Apply the polymer overlay in two separate courses in accordance with the manufacturer’s instructions, but not less than the following rate of application.

|  |  |  |
| --- | --- | --- |
| **Course** | **Minimum Polymer Rate*[1]* (GAL/100 SF)** | **Aggregate*[2]* (LBS/SY)** |
| 1 | 2.5 | 10+ |
| 2 | 5.0 | 14+ |

*[1]* The minimum total applications rate is 7.5 GAL/100 SF.

*[2]* Application of aggregate shall be of sufficient quantity to completely cover the polymer.

C.5 Minimum Curing Periods

As a minimum, cure the coating as follows:

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Average temperature of deck, polymer and aggregate components in degrees F** | | | | | | | |
| **Course** | **50-54** | **55-59** | **60-64** | **65-69** | **70-74** | **75-79** | **80-84** | **85-99** |
| 1 | 6 hrs. | 5 hrs. | 4 hrs. | 3 hrs. | 2.5 hrs | 2 hrs | 1.5 hrs. | 1 hr. |
| 2 | 8 hrs. | 6.5 hrs. | 6.5 hrs. | 5 hrs. | 4 hrs. | 3 hrs. | 3 hrs. | 3 hrs. |

If faster cure times are desired and achievable, submit to the engineer a certified test report from an independent laboratory showing the material is able to reach a compressive strength of 1000 psi as tested per ASTM C 579 Method B within the temperature ranges and cure times for which the product is proposed to be placed. Establish ambient air, material, and substrate temperatures from the manufacturer for field applications. Field applications will not be allowed below the documented temperatures.

C.6 Repair of Polymer Overlay

Repair all areas of unbonded, uncured, or damaged polymer overlay for no additional compensation. Submit repair procedures from the manufacturer to the engineer for approval. Absent a manufacturer’s repair procedures and with the approval of the engineer, complete repairs according to the following: Saw cut the limits of the area to the top of the concrete; remove the overlay by scarifying, grinding, or other approved methods; shot blast or sand blast and air blast the concrete before placement of polymer overlay; and place the polymer overlay according to section C.3.

D Measurement

The department will measure Polymer Overlay 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

509.5100.S Polymer Overlay SY

Payment is full compensation for preparing the surface; for tensile bond testing; for creating the transitional area; for providing the overlay; for cleanup; and for sweeping/vacuuming and disposing of excess materials.

The department will pay separately for deck repairs.

stp-509-030 (20200629)

1. Removing Asphaltic Concrete Deck Overlay B-64-31, Item 509.9010.S.01; Removing Asphaltic Concrete Deck Overlay B-64-39, Item 509.9010.S.02.

A Description

This special provision describes removing asphalt bridge deck overlays with or without an underlayment of waterproof membrane by milling the entire bridge deck as the plans show.

Conform to standard spec 204 as modified in this special provision.

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 1/4 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.

D Measurement

The department will measure Removing Asphaltic Concrete Deck Overlay (Structure) 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-64-31 SY

509.9010.S.02 Removing Asphaltic Concrete Deck Overlay B-64-39 SY

Payment is full compensation for removing the asphaltic concrete with or without an underlayment of waterproof membrane; and for properly disposing of all materials.

stp-509-010 (20171130)

1. Epoxy Crack Sealing, Item 509.9020.S.

A Description

This special provision describes sealing vertical cracks in abutments as the plan details show.

B Materials

Furnish a penetrating epoxy sealant manufactured by Sika, Adhesive Engineering, Technical Sealants, Dayton Superior, or equal. Before using, obtain the engineer’s approval for the epoxy system which is proposed to seal the cracks.

C Construction

Before sealing, clean the cracks by chipping and by using high-pressure air.

After all of the cleaning is completed, inject epoxy sealant into the cracks to be sealed. Seal the cracks using the penetrating epoxy sealant as recommended by the sealant manufacturer.

D Measurement

The department will measure Epoxy Crack Sealing in length by the linear foot of crack, acceptably sealed.

E Payment

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

ITEM NUMBER DESCRIPTION UNIT

509.9020.S Epoxy Crack Sealing LF

Payment is full compensation for cleaning the cracks; and for furnishing and placing the epoxy sealant.

stp-509-020 (20100709)

1. Cleaning Parapets, Item 509.9050.S.

A Description

This special provision describes cleaning the inside faces and top surface of the concrete parapet as the plans show and as the engineer directs.

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 the engineer directs. 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 the engineer directs.

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.

stp-509-050 (20151210)

1. Removing and Resetting Tubular Railing B-64-31, Item 513.9005.S.01; Removing and Resetting Tubular Railing B-64-39, Item 513.9005.S.02.

A Description

This special provision describes removing tubular railing and posts from existing bridge parapets, storing them, and then resetting them when the new parapet is complete.

B (Vacant)

C Construction

Remove the tubular railing and posts, taking care not to damage them. Store the tubular railing and posts in an area away from construction activities to preclude damage to them.

In the event that damage does occur to any item that is designated for re-use in the new work, repair or replace the damaged item at no expense to the department.

D Measurement

The department will measure Removing and Resetting Tubular Railing (Structure), as a single complete unit of 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

513.9005.S.01 Removing and Resetting Tubular Railing B-64-31 LS

513.9005.S.02 Removing and Resetting Tubular Railing B-64-39 LS

Payment is full compensation for removing the tubular railing and posts; properly storing the tubular railing and posts; and for resetting the tubular railing and posts.

stp-513-090 (20100709)

1. 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 3 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 equipment to allow the inspector to closely observe all affected surfaces. The scaffolding, with appropriate safety devices, shall meet the approval of the engineer.

stp-517-005 (20150630)

1. Preparation and Coating of Top Flanges B-64-31, Item 517.0900.S.

A Description

This special provision describes thoroughly cleaning and coating the top surface and edges of the top flanges, removing loose paint, rust, mill scale, dirt, oil, grease, or other foreign substances until the specified finish is obtained.

B (Vacant)

C Construction

For top flanges and edges that have no paint on them and in accordance with the department’s Pre‑Qualified Paint Systems for Structure Overcoating Cleaning and Priming, clean the top surface and edges of the top flanges and paint them with one coat of an approved zinc rich primer. Paint for Solvent Cleaning for Overcoat-minimum Cleaning (SP-1) is not allowed.

For top flanges and edges that have paint on them and in accordance with the department’s Pre-Qualified Paint Systems for Structure Overcoating Cleaning and Priming, clean all areas of rust and loose paint on the top surface and edges of the top flanges. Wash the top surface and edges of the top flanges and paint them with one coat of an approved zinc-rich primer in accordance with paint manufacture’s recommendations. If flash rusting occurs before the application of the primer, stop painting application, remove the flash rusting and paint cleaned surface. Paint for Solvent Cleaning for Overcoat-minimum Cleaning (SP-1) is not allowed.

Where plans call for the cleaning of other painted structural steel including hanger assemblies, bearings, field splices, and connections, clean areas of loose paint and rust in accordance with the department’s Pre-Qualified Paint Systems for Structure Overcoating Cleaning and Priming, or and in accordance with paint manufacture’s cleaning recommendations. Sound paint need not be removed with the exception of an area 12 inch on either side of hanger assembly centerlines. Clean this area to base metal according to the paint manufacture’s cleaning recommendations and paint them one coat of an approved zinc-rich primer in accordance with paint manufacture’s recommendations. Paint for Solvent Cleaning for Overcoat-minimum Cleaning (SP-1) is not allowed.

For areas of exposed steel members that are to be imbedded in new concrete and in accordance with the department’s Pre-Qualified Paint Systems for Structure Overcoating Cleaning and Priming, thoroughly clean the surface area of exposed steel members that are to be imbedded in the new concrete and solvent wash and paint one coat of an approved zinc rich primer in accordance with paint manufacture’s recommendations to these areas. Paint for Solvent Cleaning for Overcoat-minimum Cleaning (SP-1) is not allowed.

According to the approved project specific hazardous material containment plan, furnish and erect tarpaulins or other materials to collect all of the spent paint containing material resulting from blasting or hand and power tool cleaning and coating. Minimize dust during all clean-up activities. Collect and store waste material at the end of each work day or more often if needed. Store waste materials in the hazardous waste containers provided. Lock and secure all waste containers at the end of each work day. Cover containers at all times except when adding or removing 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. Transportation and disposal of such waste material will be the responsibility of the department.

Damage to existing painted surfaces as a result of construction operations, shall be restored to the approval of the engineer at the contractor's expense.

D Measurement

The department will measure Preparation and Coating of Top Flanges B-64-31 as a single complete lump sum unit of work for the structure, 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

517.0900.S Preparation and Coating of Top Flanges B-64-31 LS

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

stp-517-010 (20140630)

1. Structure Repainting Recycled Abrasive B-64-31, Item 517.1800.S.

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

All structural metal surfaces of:

1. Structure B-64-31 11,900 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.2 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 B-64-31 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 Structure Repainting Recycled Abrasive B-64-31 LS

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

stp-517-050 (20190618)

1. Labeling and Disposal of Waste Material.

The EPA ID number for Structure B-64-31 is Enter EPA ID #.

The state has an exclusive mandatory use contract with a private waste management contractor to transport and dispose of hazardous waste.

The state’s waste management contractor shall furnish and deliver appropriate hazardous waste containers and site-specific labels to each bridge site. The provided containers shall be placed at pre-selected drop-off and pick-up points at each bridge site, and these locations shall be determined at the preconstruction conference. The custody of the containers and labels shall be the responsibility of the painting contractor while they are at the job site.

Contact the waste management contractor a minimum of 10 working days in advance to request container drop-off or pickup. Provide the waste management contractor with the project ID, structure number, EPA ID, and the agreed-upon location for container staging. Contact information for the waste management contractor is located on the WisDOT Internet site at  
<https://wisconsindot.gov/Documents/doing-bus/eng-consultants/cnslt-rsrces/environment/hazwaste-contacts.pdf>

Report all reportable spills and discharges according to the contingency plan.

Labels are site-specific. Check the labels to ensure that the project ID, structure number, and EPA ID match the structure generating the waste. Apply a label to each drum when it is opened for the first time. Fill in the date on the label the first day material is accumulated in the drum. The following page is an example of a properly filled-in label.

During paint removal operations, continuously monitor and notify the project inspector of the status of waste generation and quantity stored so that timely disposal can be arranged.

stp-517-055 (20190618)

HAZARDOUS WASTE

WW-5257580999-001-01-0

STORAGE LABEL

DOT SHIPPING DESCRIPTION

EPA CODE: E/D008 STATE: S

WIP#: 391498

WIP DESC: BRIDGE SAND WITH LEAD

HAZARDOUS WASTE – FEDERAL LAW PROHIBITS IMPROPER DISPOSAL IF FOUND, CONTACT THE NEAREST POLICE OR PUBLIC SAFETY AUTHORITY OR THE U.S. ENVIRONMENTAL PROTECTION AGENCY.

GENERATOR’S NAME AND ADDRESS

RQ, HAZARDOUS WASTE, SOLID, n.o.s.,

(LEAD), 9, NA3077, III, (D008)

DATE ACCUMULATED: 07/01/2005

WISC DOT BRIDGE # B-29-53/54

I-94 OVER CTH H

PROJECT ID # 5882-03-70

CAMP DOUGLAS, WI 54618 (608) 963-0871

GENERATOR EPA ID

WIR000121103

Project ID Number on label must match the Project Number assigned by the WIDOT

Bridge Number and Address on label must match specific bridge from which waste was generated.

EPA ID Number on label is specific to the bridge from which the waste is generated.

Enter the date that waste materials were first placed into the container

1. Negative Pressure Containment and Collection of Waste Materials, B-64-31, Item 517.4500.S.

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 B-64-31 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

517.4500.S Negative Pressure Containment and Collection of Waste Materials B-64-31 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.

stp-517-065 (20140630)

1. 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 Materials

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.

stp-517-060 (20140630)

1. Cleaning Culvert Pipes

*Replace standard spec 520.5.1.4 with the following:*

Payment for Cleaning Culvert Pipes is full compensation for cleaning the culvert pipe, attached structures and apron endwalls, grading the ditch to drain, and for disposing of excess material.

1. Reseal Crushed Aggregate Slope Paving, Item 604.9015.S.

A Description

This special provision describes sealing existing crushed aggregate slope paving as the engineer directs and conforming to standard spec 604 as modified in this special provision.

B Materials

Furnish materials conforming to standard spec 604.2.

C Construction

Clean all debris from the surface of the slope paving before applying asphalt. Apply sufficient asphalt so that it penetrates to seal the top 2 inches of aggregate; where existing asphalt is closer to the surface of the aggregate, apply less asphalt.

D Measurement

The department will measure Reseal Crushed Aggregate Slope Paving in area by the square yard of slope paving, acceptably resealed.

E Payment

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

ITEM NUMBER DESCRIPTION UNIT

604.9015.S Reseal Crushed Aggregate Slope Paving SY

Payment is full compensation for cleaning the surface; furnishing and applying the asphalt.

stp-604-015 (20100709)

1. Guardrail Mow Strips.

*Replace standard spec 614.5.7 with the following:*

Payment for the Guardrail Mow Strip bid items is full compensation for removing any debris or weeds from between the posts, providing the paved strip adjacent to the guardrail installation; for concrete, asphaltic surface material, or emulsified asphalt; and for controlled low-strength backfill including mix design and testing.

1. 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.

stp-638-010 (20150630)

1. Covering Signs.

*Replace standard spec 643.2.3.3(2) with the following:*

(2) Ensure that covers are flat black, blank, and opaque.

*Add the following to standard spec 643.3.4.1 as paragraph four:*

(4) If multiple messages on a single sign are required to be covered, minimize the number of holes created by covering the sign with a single rectangular shaped covering. Multiple coverings on a single sign is only permissible where necessary to avoid covering necessary content or as directed by the engineer. Submit sign covering plans to the engineer for single signs requiring multiple coverings 3 days before performing work. Obtain engineer approval before covering signs. Remove sign coverings before placing fixed messages signs unless otherwise directed by the engineer.

sef-643-005 (20180104)

1. Nighttime Work Lighting-Stationary.

A Description

This special provision describes furnishing 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 before 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.

stp-643-010 (20100709)

1. Locate and Clean Existing Underdrain Outfalls, Item SPV.0060.01.

**A Description**

This special provision describes locating and cleaning of existing underdrain outfalls within the project limits.

**B (Vacant)**

**C Construction**

In areas where the shoulders are not being reconstructed as part of the project, locate and temporarily mark existing underdrain outfall locations before construction begins. Take care not to damage or cover any existing underdrain outfalls to remain after construction. Ensure all existing underdrain outfalls not in shoulder reconstruction areas are clear of any base aggregate, or other debris at the end of construction activities.

**D Measurement**

The department will measure Locate and Clean Existing Underdrain Outfalls 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

SPV.0060.01 Locate and Clean Existing Underdrain Outfalls EACH

Payment for Locate and Clean Existing Underdrain Outfalls is full compensation for locating, temporarily marking and cleaning of the outfalls and disposing of all material removed.

1. Cap Existing Underdrain, Item SPV.0060.02.

**A Description**

This special provision describes capping existing underdrain locations as shown in the plans.

**B (Vacant)**

**C Construction**

Thoroughly clean the ends of the underdrain pipe and seal them with a manufactured cap of an appropriate size and material to match existing or any grade of concrete specified under standard spec 501.3.1.3.

**D Measurement**

The department will measure Cap Existing Underdrain 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

SPV.0060.02 Cap Existing Underdrain EACH

Payment is full compensation for any excavation required to expose the drain tile; providing a cap; backfilling with existing material from the excavation; compacting the backfill material and restoring the site.

1. Traffic Control Close-Open Freeway Service Ramp, Item SPV. 0060.03.

A Description

This special provision describes closing and re-opening service entrance or exit ramps and associated auxiliary lane and conforming to standard spec 643, the plans, and as directed by the engineer.

B (Vacant)

C Construction

Install or reposition traffic control devices required for closing a freeway service ramp. Remove or return traffic control devices to their previous configuration when the closure is no longer required. Post all ramp closures three business days in advance of their closure with dates and time of closure. Drums, barricades and signs may remain along the roadways when the ramp is open to traffic pending engineer approval to verify adequate offsets from traffic are provided. Ensure that all inappropriate signs, dates or times are not visible to traffic when the ramp is open. A deduction of one each will be made from the project total for this item for each day any inappropriate sign is visible to traffic when the ramp is open.

D Measurement

The department will measure Traffic Control Close-Open Freeway Service Ramp as each unit, acceptably completed, each time a freeway service ramp closure is setup and subsequently removed within a 24-hour period that has been authorized by the engineer.

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 Traffic Control Close-Open Freeway Service Ramp EACH

Payment is full compensation for closing and later and re-opening a freeway service ramp. Traffic Control devices will be paid separately. Closure of adjacent auxiliary lanes shall be made as necessary at no additional cost to the Department. Closure of a ramp not deemed necessary by the engineer shall be made at no additional cost to the Department.

1. Traffic Control Close-Open Freeway to Freeway System Ramp, Item SPV. 0060.04.

A Description

This special provision describes closing and re-opening a freeway to freeway system entrance or exit ramp and associated auxiliary lane and conforming to standard spec 643, the plans, and as directed by the engineer.

B (Vacant)

C Construction

Install or reposition traffic control devices required for closing a freeway to freeway system ramp. Remove or return traffic control devices to their previous configuration when the closure is no longer required. Post all ramp closures three business days in advance of their closure with dates and time of closure. Drums, barricades and signs may remain along the roadways when the ramp is open to traffic pending engineer approval to verify adequate offsets from traffic are provided. Ensure that all inappropriate signs, dates or times are not visible to traffic when the ramp is open. A deduction of one each will be made from the project total for this item for each day any inappropriate sign is visible to traffic when the ramp is open.

D Measurement

The department will measure Traffic Control Close-Open Freeway to Freeway System Ramp as each unit, acceptably completed, each time a freeway system ramp closure is setup and subsequently removed within a 24-hour period that has been authorized by the engineer.

E Payment

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

ITEM NUMBER DESCRIPTION UNIT

SPV. 0060.04 Traffic Control Close-Open Freeway to Freeway System Ramp EACH

Payment is full compensation for closing and later and re-opening a freeway system ramp. Traffic Control devices will be paid separately. Closure of adjacent auxiliary lanes shall be made as necessary at no additional cost to the Department. Closure of a ramp not deemed necessary by the engineer shall be made at no additional cost to the Department.

1. Install Railing Splice Sleeve, Item SPV.0060.05.

A Description

This special provision describes providing and installing a splice sleeve for existing railing mounted on the bridge parapets.

B Materials

Furnish new railing components that are according to the pertinent requirements of section 513 of the standard specifications.

C Construction

Remove any broken or damaged accessories without damaging the railing components to remain. Replace contractor-damaged parts.

Install new splice sleeve and associated accessories in accordance with section 513 of the standard specifications.

D Measurement

The department will measure Install Railing Splice Sleeve as each individual unit acceptably completed.

E Payment

ITEM NUMBER DESCRIPTION UNIT

SPV.0060.05 Installing Railing Splice Sleeve EACH

Payment is full compensation for removal and disposal of existing parts to be replaced; furnishing and installing new splice sleeve components; and for furnishing all labor, tools, materials, equipment, and incidentals necessary to complete the contract work.

1. Bearing Repair, Item SPV.0060.06.

A Description

This special provision describes removing the bearings at substructures noted in the plans, blast cleaning and priming the bearings, furnishing and placing shims, resetting the bearings, and furnishing and placing new anchor bolts.

B (Vacant)

C Construction

Clean the bearings to a near white finish. Prime the bearings with one coat of organic zinc primer.

D Measurement

The department will measure Bearing Repair as each individual bearing acceptably completed.

E Payment

ITEM NUMBER DESCRIPTION UNIT

SPV.0060.06 Bearing Repair EACH

Payment for Bearing Repair is full compensation for removing, cleaning, painting, and resetting bearings; and furnishing, painting, and placing shim plates and anchor bolts.

1. Strapping B-64-37 Item SPV.0060.07; Strapping B-64-38 Item SPV.0060.08.

A Description

This special provision describes securing a wing wall to a culvert or abutment body with a structural channel.

B Materials

Use galvanized structural channel conforming to the size and material shown on the plans and conforming to standard spec 506.

C Construction

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

D Measurement

The department will measure Strapping B-64-37 and Strapping B-64-38, 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.0060.07 Strapping B-64-37 Each

SPV.0060.08 Strapping B-64-38 Each

Payment for Strapping B-64-37 and Strapping B-64-38 is full compensation for furnishing and installing the channel.

1. Double Staked Silt Fence, Item SPV.0090.02.

**A Description**

This special provision describes the delivery, installation, maintenance, and removal of Double Staked Silt Fence. Install fence as directed by the engineer. Do not remove fence until directed by the engineer.

**B Materials**

Furnish all materials to conform to standard spec 628.

**C Construction**

Construct with post spacing not to exceed 1’-6” if using a geotextile fabric or 4’-0” if using woven a geotextile fabric.

**D Measurement**

The department will measure Double Staked Silt Fence by the linear foot acceptably completed. The department will measure along the base of the fence, center-to-center of end post, for each section of fence. Maintenance of Double Staked Silt Fence will be paid for by the standard Silt Fence Maintenance bid item.

**E Payment**

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

ITEM NUMBER DESCRIPTION UNIT

SPV.0090.02 Double Staked Silt Fence LF

Payment will be according to the applicable provisions of standard spec 628.5.6.

1. Marking Line Contrast Epoxy 4-Inch, Item SPV.0090.03.

A Description

This special provision describes applying contrast epoxy marking conforming to standard spec 646, as the plans show, and as follows.

B Materials

Furnish epoxy pavement marking materials conforming of standard spec 646.2.

C Construction

Apply two 1 ½-inch wide black epoxy lines with a 4-inch separation between the two black lines for the first pass, followed by a 4-inch wide white epoxy line second pass, for a total width of 7 inches. Apply epoxy pavement marking conforming to standard spec 646.3.

D Measurement

The department will measure Marking Line Contrast Epoxy 4-Inch by the linear foot acceptably completed, measured once as the length of the centerline of the completed installation.

E Payment

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

ITEM NUMBER DESCRIPTION UNIT

SPV.0090.03 Marking Line Contrast Epoxy 4-Inch LF

Payment is full compensation for providing replacement marking.

SER-646-001 (20180214)

1. Marking Line Contrast Epoxy 8-Inch, Item SPV.0090.04.

A Description

This special provision describes applying contrast epoxy marking conforming to standard spec 646, as the plans show, and as follows.

B Materials

Furnish epoxy pavement marking materials conforming of standard spec 646.2.

C Construction

Apply two 1 ½-inch wide black epoxy lines with an 8-inch separation between the two black lines for the first pass, followed by an 8-inch wide white epoxy line second pass, for a total width of 11 inches. Apply epoxy pavement marking conforming to standard spec 646.3.

D Measurement

The department will measure Marking Line Contrast Epoxy 8-Inch by the linear foot acceptably completed, measured once as the length of the centerline of the completed installation.

E Payment

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

ITEM NUMBER DESCRIPTION UNIT

SPV.0090.04 Marking Line Contrast Epoxy 8-Inch LF

Payment is full compensation for providing replacement marking.

SER-646-002 (20180214)

1. Steel Thrie Beam Railing Retrofit, Item SPV.0090.05.

**A Description**

This special provision describes Steel Thrie Beam Railing Retrofit, according to the plans and as hereinafter provided.

**B Materials**

Furnish steel thrie beam, and steel for assembly conforming to standard spec 614.2.3. Furnish wood blocking conforming to standard spec 614.2.5.1. Furnish bolts, lag screws and associated hardware conforming to standard spec 614.2.1. Unless noted elsewhere in the plans or covered by specific reference in this provision all metals shall be hot-dip galvanized according to ASTM A153.

**C Construction**

C.1 General

Apply two coats of wood preservative to cut surfaces of wood components. Use the same preservative originally used to treat that components or use copper naphthenate solution containing 2 percent or more copper metal conforming to AWPA P34.

C.2 Concrete Repair

Repair any concrete damaged during the Steel Thrie Beam Railing Retrofit installation according to standard spec 509.

C.3 Guardrail

Install guardrail as shown on the plans and as listed in this specification.

C.3.1 For anchoring wood blocking to structure, drill holes through wood blocking and parapet as shown in the plans, and at the spacing specified in the plans. Anchor wood blocking to the parapet using a 3" diameter x 1" deep countersink in the wood blocking on the traffic side as shown in the plans. Set wood blocking at the required spacing with the front traffic side faces aligned in a straight line parallel to traffic lanes. Install the wood blocking plumb, and at the dimensions specified in the plans.

C.3.2 Install rail with lap splices in the direction of traffic. Place the round head of bolts on the traffic side. Make all splices at wood blocking. Cut rails to length by shearing or sawing and drill bolt holes. Do not use cutting torches. After installation, cut off all anchor bolts that project more than one inch from the nut to 1/2 inch from the nut. Deburr the threaded end of cut bolts.

**D Measurement**

The department will measure Steel Thrie Beam Railing Retrofit by the linear foot, acceptably completed, measured along the face of the rail element.

**E Payment**

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

ITEM NUMBER DESCRIPTION UNIT

SPV.0090.05 Steel Thrie Beam Railing Retrofit LF

Payment is full compensation for providing rail, wood blocking, fittings, bolts and hardware; for setting and anchoring wood blocking; including drilling holes in the concrete parapet and wood blocking and repairing any concrete damaged during installation; for installing steel thrie beam railing; and for disposing of surplus material.

SEF 650-005

1. Survey Project 1080-12-70, Item SPV.0105.01; Survey Project 1080-12-72, Item SPV.0105.02; Survey Project 1080-12-73, Item SPV.0105.03.

A Description

This special provision describes modifying standard specs 105.6 and 650 to define the requirements for construction staking for this contract. Conform to sections 105.6 and 650 and as follows.

The department will not perform any construction staking for this contract. Obtain engineer's approval before performing all survey required to lay out and construct the work under this contract.

*Replace standard spec 650.1 with the following:*

This section describes the contractor-performed construction staking required under individual contract bid items to establish the horizontal and vertical position for all aspects of construction including:

- storm sewer

- subgrade

- base

- curb and gutter

- pipe culverts

- drainage structures

- structure layout

- bridges

- pavement

- pavement markings (temporary and permanent)

- barriers (temporary and permanent)

- resurfacing reference

- supplemental control

- slope stakes

- utilities

- traffic control items

- fencing

B (Vacant)

C Construction

*Add the following to standard spec 650.3.1 (5):*

Confirm with engineer before using global positioning methods to establish the following:

1. Structure layout horizontal or vertical locations.

2. Concrete pavement vertical locations.

3. Curb, gutter, and curb & gutter vertical locations.

4. Concrete barrier vertical locations.

5. Storm Sewer layout horizontal or vertical locations, including structure centers, offsets, access openings, rim and invert elevations.

*Replace standard spec 650.3.1.1(2) with the following:*

(6) Maintain neat, orderly, and complete survey notes, drawings, and computations used in establishing the lines and grades. This includes:

- Raw data files

- Digital stakeout reports

- Control check reports

- Supplemental control files (along with method used to establish coordinates and elevation)

- Calibration report

Make the survey notes and computations available to the engineer within 24 hours as the work progresses unless a longer period is approved by the engineer.

*Replace standard spec 650.3.3.1 with the following:*

Under the Survey Project bid item, global positioning system (GPS) machine guidance for conventional subgrade staking on all or part of the work may be substituted. The engineer may require reverting to conventional subgrade staking methods for all or part of the work at any point during construction if the GPS machine guidance is producing unacceptable results.

*Replace standard spec 650.3.3.3.4.1 with the following:*

The department will provide the contractor staking packet as described in the Construction and Materials Manual (CMM) 7.10. At any time after the contract is awarded, the available survey and design information may be requested. The department will provide that information within 5 business days of receiving the contractor's request. The department incurs no additional liability beyond that specified in standard spec 105.6 or standard spec 650 by having provided this additional information.

*Add the following to standard spec 650.3.3.3.6.2 as paragraph four:*

Record all subgrade elevation checks and submit a hard copy to the engineer within 24 hours or as requested by the engineer.

D Measurement

*Replace standard spec 650.4 with the following:*

(1) The department will measure Survey Project (Project ID) as a separate single lump sum unit acceptably completed.

E Payment

*Replace standard spec 650.5 with the following:*

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

ITEM NUMBER DESCRIPTION UNIT

SPV.0105.01 Survey Project 1080-12-70 LS

SPV.0105.02 Survey Project 1080-12-72 LS

SPV.0105.03 Survey Project 1080-12-73 LS

Payment is full compensation for performing all survey work required to lay out and construct all work under this contract and for adjusting stakes to ensure compatibility with existing field conditions. The department will not make final payment for this item until the contractor submits all survey notes and computations used to establish the required lines and grades to the engineer within 24 hours of completing this work. Re-staking due to construction disturbance and knock-outs will be performed at no additional cost to the department.

1. Vegetation and Debris Removal B-64-34, Item SPV.0105.04; Vegetation and Debris Removal B-64-61, Item SPV.0105.05; Vegetation and Debris Removal C-64-09, Item SPV.0105.06.

**A Description**

This special provision describes removing and disposing of vegetation and debris at box culvert openings. No in-stream disturbance is allowed between March 1st and June 15th.

B (Vacant)

**C Construction**

**C.1 Vegetation and Debris Removal**

Remove all vegetation and debris at box culvert openings within banks of the waterway to restore channel bottom and remove channel flow restrictions. Additional removal of vegetation and debris interfering with the structure or channel flow to be as directed by the engineer. Tree and large debris removal (such as car tires, etc.) restricting channel flow are the primary intent of this work. Removal of these items at discrete locations are expected to cause minor stream bed disturbance and do not require the water to be diverted. Any larger scale removals requiring in stream excavation will require a diversion plan for active water flow. If stream bed excavation is required to complete the work, include a plan to divert active water flow along Como Creek, Jackson Creek, or a tributary to Jackson Creek, and submit with the ECIP.

Perform vegetation removal work per section 201.3 of the standard specifications, except as modified herein.

**D Measurement**

The department will measure bid items as a single lump sum unit for each structure 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.0105.04 Vegetation and Debris Removal B-64-34 LS

SPV.0105.05 Vegetation and Debris Removal B-64-61 LS

SPV.0105.06 Vegetation and Debris Removal C-64-09 LS

Payment is full compensation for all vegetation removal required under this section and performed within the removal limits defined under this section and identified on the plans; handling, hauling, piling, burning, burying, trimming, chipping, wound treatment, re-handling, diverting Como Creek, Jackson Creek or a tributary to Jackson Creek water flow as necessary, and disposing of waste and debris; and for furnishing all labor, tools, materials, equipment and incidentals necessary to complete the contract work.

1. Field Office Special, Item SPV.0135.01.

A Description

This special provision describes furnishing, equipping, and maintaining field office facilities.

B Materials

Obtain engineer approval before providing an existing office building, or an existing building converted to office-type use. Ensure that the building meets all applicable health, fire, and building codes and standards and is less than one mile from the project limits. Use the following map for selecting your location and internet accessibility.

<https://maps.psc.wi.gov/apps/WisconsinBroadbandMap/>

Provide; maintain in clean good working condition; and stock lavatory with sanitary supplies, including a sufficient supply of soap; hand sanitizer; toilet paper; and paper towels. The on-site sanitary facilities must meet Federal, State, and local health department requirements at all times.

Equip these facilities with suitable natural and light emitting diode (LED) DSL lighting. Also provide adequate heating and air conditioning equipment and fuel necessary to maintain a temperature range from 68 F to 80 F during the hours occupied.

Equip:

- Doors and windows with locks.

- Exterior doors with dead bolt locks.

- Windows with exterior screens to allow adequate ventilation.

Supply a first aid kit in each field office provided under the contract. Ensure the kits are readily accessible to project personnel. Check and replenish the contents of each kit at least once a week. Ensure that each kit contains, at a minimum, a supply of nitrile examination gloves, CPR masks, adhesive tape, pressure and cling bandages, antiseptic wipes, bite/sting swabs, cold packs, and safety goggles.

Equip with a 6-pound or larger fire extinguisher conforming to class A, B, and C of the NFPA Code.

Provide at least 1800 square feet interior useable floor space, including shared spaces, such as plan review areas, conference rooms, meeting areas, hallways, and restrooms.

Obtain engineer’s approval of a suitably sized, open meeting area, including tables and folding chairs to accommodate regularly scheduled meetings of 50 people.

Provide 10 workstations, including a lockable desk, shelf, and fireproof 4-drawer file cabinet. Provide 3 private rooms, additionally equipped with a four-shelf bookcase, its own air conditioner, a large lockable metal storage cabinet, and a 48" x 36" whiteboard with dry-erase markers. Supply the interior doors to these rooms with locksets.

Provide one ergonomically correct office chair in working condition, with, at a minimum, the following features, for each workstation:

- Five-legged base with casters.

- High backrest.

- Seat adjustable from 15 inches to 22 inches from the floor with a "seamless waterfall, rounded front edge.

Provide at least 10 high speed broad band internet connections at upload and download speeds ranging from 20-100 Megabits/second (Mbps). Use a minimum of "small office networking" package, including a Dynamic IP Address (DHCP), a wireless router, a Digital Subscriber Loop (DSL) or Cable Modem Router. The package shall accommodate IPSec based VPN products and be capable of supporting cloud-enabled file-sharing and video-conferencing.

Internet to be provided shall have a bandwidth range as follows:

* Field office with 1-5 staff: A minimum connection speed of 10 Mbps download and 2 Mbps upload.

- Field office with 6 or more staff: A minimum connection speed of 20 Mbps + 1 Mbps per user download and 5 Mbps upload.

Provide and install into the field office 2 two-line programmable touch-tone telephones and telephone exchanges with local and long distance service or VoIP phone network. At least one will be a cordless type operating at least 2.4 GHz. The voice exchanges are to be configured so that the incoming calls for any voice exchange utilize an open exchange. Furnish a voice mail answering service. The telephones and the communication services are for the sole use of the department staff.

Provide one new Windows 10 compliant, high-capacity color printer/photocopier/scanner capable of printing and copying up to 11" x 17" paper, with the ability to perform duplexing, sorting, stapling, and multiple sheet auto feeding, with a built-in scanner with the capability to scan black and white and color up to 11" x 17" at a minimum of 1200dpi, and with a direct or field office wireless network connection, as approved by the engineer.

Provide and maintain an adequate supply of bottled drinking water. Provide a refrigerator with a minimum 18 cubic foot capacity, including a freezer. Provide a microwave oven with a minimum 1.1 cubic foot capacity, a minimum of 1000 watts, and a removable glass turntable.

Maintain the field office equipment and provide supplies for the photocopiers as requested by the engineer.

Provide for the professional cleaning of the field office during regular business hours twice monthly.

Provide clearly marked recycling and waste receptacles within the field office, and separate recycling and waste dumpsters near the field office. Cover outdoor containers to keep out rain, and snow. Provide regularly scheduled recycling and waste pick-up.

Include an adjacent, no-fee, lighted parking lot large enough to accommodate the needs of the field office at peak usage, as approved by the engineer. Maintain the parking lot and egress, including snow removal.

C Construction

Do not combine field offices, or combine them with, or attach them to, any buildings used by the contractor, unless the engineer allows in writing.

Do not begin construction operations requiring the use of the field offices by the department until the required field offices are approved by the engineer, furnished, fully equipped, and made ready for use as the engineer directs.

The field office shall remain available for department until the engineer approves its closure. These field facilities are for the sole use of the department and upon contract completion remain the contractor’s property.

D Measurement

The department will measure Field Office Special by the month, or partial month where applicable, 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.0135.01 Field Office Special MONTH

Payment is full compensation for providing, equipping, securing, cleaning and maintaining the facility and associated parking lot; for telecommunications equipment, installation, and service fees; and for providing all incidentals, including bottled water, refrigerator/freezer, microwave, utilities, fuel, safety, ventilation, toilet facilities, and office supplies as required, either independently or jointly, for the time specified in section C. The department will pay for long-distance telephone usage fees incurred by department staff.

sef-642-005 (20180627)

1. Abutment Seat Cleaning and Sealing, Item SPV.0180.01.

A Description

This special provision describes cleaning the top surfaces of concrete abutments and sealing them as the plans show and as the engineer directs.

B Materials

For bridge seat protection/sealing, coat the tops of abutments with a type of epoxy resin the manufacturer recommends for sealing exterior concrete surfaces, subject to the engineer’s approval.

C Construction

**C.1 Blast Cleaning Operation**

Blast clean the top surface of the abutment according to SSPC SP-13 and ASTM D4259 for an abrasive blast cleaning to a surface roughness and finish as the engineer directs. Before abrasive blast cleaning operations are to begin, prepare a representative trial area on the abutment surface, and have the method of blast cleaning approved by the engineer. Provide means of protecting bearings and girders such that their coatings/paint are not removed or damaged during blasting operations.

**C.2 Water Cleaning Operation**

After abrasive blast cleaning operations are completed, clean the prepared pier cap surface with water according to ASTM D4258. Remove with this water cleaning all dust and loose material from the top surface of the abutments to be coated with epoxy for bridge seat protection. Provide an adequate drying time of at least 24 hours before coating with epoxy. Remove all loose concrete, dirt, dust, or blast material that remains in the area around the abutment, as the engineer directs.

**C.3 Bridge Seat Protection**

After cleaning, apply bridge seat protection epoxy per standard spec 502.3.12

D Measurement

The department will measure Abutment Seat Cleaning and Sealing 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

SPV.0180.01 Abutment Seat Cleaning & Sealing SY

Payment is full compensation for abrasive blast cleaning; for water cleaning; for all additional cleanup of the concrete surface and surrounding abutment areas; and for furnishing and applying bridge seat protection.