Special Provisions

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STSP'S Revised November 21, 2019

SPECIAL PROVISIONS

1. General.

Perform the work under this construction contract for Project 2150-00-01, Brown Deer Road, 91st Street to Deerbrook Trail, STH 100, Milwaukee County, Wisconsin as the plans show and execute the work as specified in the State of Wisconsin, Department of Transportation, Standard Specifications for Highway and Structure Construction, 2020 Edition, as published by the department, and these special provisions.

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

100-005 (20191121)

2. Scope of Work.

The work under this contract shall consist of concrete base patching, HMA pavement, left-turn lane and other median work, concrete curb and gutter, concrete sidewalk, curb ramp replacement, signal replacement, storm sewer, manhole and inlet adjustments and reconstruction, streetscaping, pavement marking, permanent signing and all incidental items necessary to complete the work as shown on the plans and included in the proposal and contract.

104-005 (20090901)

3. Prosecution and Progress.

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

Provide the start date to the engineer in writing within a month after executing the contract but at least 14 calendar days before the preconstruction conference. 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.

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

General

Attend weekly scheduling meetings to discuss the near-term schedule activities, address any long-term schedule issues, and discuss any relevant technical issues. Develop a rolling three-week schedule identifying the previous week worked and a two week "look ahead". Provide sufficient detail to include actual and planned activities and all the subcontractors for offsite and construction activities, addressing all activities including ramp and lane closure schedules to be performed and identifying issues requiring engineering action or input. Subcontractors shall be in attendance at the weekly progress meetings if identified on the two week "look ahead".

Schedule curb ramp removal and replacement so that the time lapse between removal and replacement is no more than 7 working days. The 7-day timeline does not apply to intersections with signal work.

The intersections with full-depth colored concrete removal and replacement are as follows:

- 66th St/Park Plaza Ct
- 60th St
- 51st St

Do not allow traffic on milled pavement at any time.

Do not allow traffic on uneven pavement. Pave the entire layer across all lanes within the work zone.

Paving shall be done in echelon between lanes 2 and 3. Exceptions to the echelon paving requirement include the following:

- Turn lanes
- Percent Within Limits (PWL) test strip location
- Major intersections

Percent Within Limits (PWL) Testing – Location, Limitations and Quantities

The PWL test strip will be completed in lane 3 (outside lane). Refer to Stage BLANK for traffic control.

PWL Quantities – The proposed segment is approximately BLANK feet. The paving width within the closure is 12 feet. The approximate yield for PWL testing is BLANK tons for the lower layer and BLANK tons for the upper layer.

Interim Completion Requirements

Sequence of Operations

The department anticipates that the schedule for each stage shall be as follows. This list is not all inclusive.

Do not move to the next stage until all work in the current stage is completed in an area or as approved by the engineer.

Stage 1A – Lane 3 (outside lane) work consists of:

- Asphalt milling
- Concrete surface partial depth milling
- Concrete base patching
- Adjusting, cleaning or reconstructing inlets, manholes and water valves
- Cover plating manholes
- Paving asphalt lower layer
- Installation of temporary pedestrian accommodations
- Removal and replacement of sidewalk and curb ramps
- Constructing new sidewalk
- Installation of temporary signals
- Installation of new signal equipment
- Cleaning box culvert

Stage 1B – Lanes 2 and 3 (middle and outside lanes) work consists of:

- Asphalt milling
- Concrete surface partial depth milling
- Concrete base patching
- Adjusting, cleaning or reconstructing inlets, manholes and water valves
- Cover plating manholes

- Paving asphalt lower layer
- Loop detector removal and replacement?
- Temporary pavement marking?
- Some Stage 1A work may continue into Stage 1B

Stage 2A – Lane 1 (inside lane) work consists of:

- Same work as Stage 1A except: constructing new sidewalk and cleaning box culvert
- Left-turn lane and median modifications
- Removal and replacement of storm sewer manholes, inlets and storm sewer pipe

Stage 2B – Lanes 1 and 2 (inside and middle lanes) work consists of:

- Same work as Stage 1B
- Some Stage 2A work may continue into Stage 2B

Stage 3A – Lane 1 (inside lane) work consists of:

- Adjusting, cleaning or reconstructing inlets, manholes and water valves
- Paving asphalt upper layer
- Installation of new signal equipment
- Pavement marking
- Signing
- Final erosion control and restoration
- Some Stage 2 work may continue into Stage 3A

Stage 3B – Lanes 1 and 2 (inside and middle lanes) work consists of:

- Adjusting, cleaning or reconstructing inlets, manholes and water valves
- Paving asphalt upper layer
- Pavement marking
- Some Stage 3A work may continue into Stage 3B

Stage 4A – Lane 3 (outside lane) work consists of:

- Same work as Stage 3A
- Constructing new sidewalk and curb ramps not finished in Stage 1

Stage 4B – Lanes 2 and 3 (middle and outside lanes) work consists of:

- Same work as Stage 3B
- Some Stage 4A work may continue into Stage 4B

Fish Spawning

There shall be no instream disturbance of Beaver 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 fish and other aquatic organisms.

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)

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.

4. Lane Rental Fee Assessment.

A General

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

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

Submit the dates of the proposed lane, ramp, and roadway restrictions to the engineer as part of the progress schedule.

Coordinate lane, ramp, and roadway closures with any concurrent operations on adjacent roadways within 3 miles of the project. If other projects are in the vicinity of this project, coordinate lane closures to run concurrent with lane closures on adjacent projects when possible. When lane closures on adjacent projects extend into the limits of this project, Lane Rental Fee Assessments will only occur if the closure facilitates work under this contract.

B Lane Rental Fee Assessment

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:

- Night time- $Lane Rental Dollar Amount per lane, per direction of travel, per hour broken into 15 minute increments
- System Ramp- $Lane Rental Dollar Amount per lane, per direction of travel, per hour broken into 15 minute increments
- Service Ramp- $Lane Rental Dollar Amount per lane, per direction of travel, per hour broken into 15 minute increments
- Off Peak- $Lane Rental Dollar Amount per lane, per direction of travel, per hour broken into 15 minute increments
- On Peak- $Lane Rental Dollar Amount per lane, per direction of travel, 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)

5. Traffic.

General

Lane closures will be required along STH 100 to complete the proposed work.

Use the traffic control and staging plans to complete all contract work. All variations from the traffic control and staging plans shall be submitted for approval in writing to the engineer at least 48 hours prior to any traffic control change. Any changes to the traffic control plans must be approved by the engineer.

Place portable changeable message signs (PCMS) 5 calendar days prior to any mainline shift in traffic control, sideroad through lane closure and any ramp closure indicating the anticipated closures at locations designated on the plan or directed by the engineer. PCMS messages are to be approved by the engineer.

Re-open lanes to traffic immediately upon completion of the construction operations that require their closure and where no construction operations are taking place. This applies specifically to double lane closures, sideroad through lane closures and ramp closures.

Maintain emergency vehicle, transit, pedestrian, and residential and commercial driveway access at all times on all roadways within the project limits.

Utilize existing bus stops or provide temporary bus stops to maintain transit access as shown on plans. Changes to transit access must be approved by MCTS and the engineer. See the traffic control and staging plans and standard detail drawings for more information.

Contractor shall coordinate access changes and restrictions to all driveways in advance of such restrictions. Contractor shall restore access changes and restrictions as quickly as possible. Contractor shall notify property owners with limited access 48 hours in advance of restriction. Notification should be

hand delivered and include a timeframe not to exceed BLANK hours. See traffic control and staging plans for how driveway access is to be maintained during each stage.

Sequencing/Staging

Stage 1A – Full-time, long-term single lane closure

Close lane 3 and provide two 11-foot lanes open to traffic in both directions. Close outside lane(s) on sideroads.

Stage 1B – Off-peak lane closure

Close lanes 2 and 3 and provide one 10-foot lane open to traffic in both directions. Close outside lane(s) on sideroads.

Stage 2A – Full-time, long-term single lane closure

Close lane 1 and provide two 11-foot lanes open to traffic in both directions. Close inside lane(s) on sideroads.

Stage 2B – Off-peak lane closure

Close lanes 1 and 2 and provide one 10-foot lane open to traffic in both directions. Close inside lane(s) on sideroads.

Stage 3A – Same as Stage 2A

Stage 3B – Same as Stage 2B

Stage 4A – Same as Stage 1A

Stage 4B – Same as Stage 1B

Definitions

Long-term single-lane closures will be allowed during all stages as shown on the traffic control and staging plans. Additionally, double-lane closures will be allowed on STH 100 during off-peak hours during all stages but must be approved by the engineer.

The peak hours are as follows:

Weekday Peak Hours:	7:00 AM - 9:00 AM Monday, Tuesday, Wednesday, Thursday, and Friday
	3:00 PM - 6:00 PM Monday, Tuesday, Wednesday, Thursday, and Friday
Weekend Peak Hours:	No Restrictions (double-lane closures will be allowed from 7:00 PM Friday to 6:00 AM Monday)

Traffic Restrictions

Intersection closures at the full-depth colored concrete removal and replacement intersections shall only occur during nighttime hours. Maintain at least one through lane on STH 100 in each direction. Closure of sideroad through lanes may be allowed, but right-turning movements onto STH 100 must be provided. Refer to the traffic control and staging plans for more information. The public shall be notified of these

closures with the use of portable changeable message signs at least 5 calendar days prior to any intersection 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.

6. Holiday Work Restrictions.

Do not perform work on, nor haul materials of any kind along or across any portion of the highway carrying STH 100 (Brown Deer Rd) 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.

stp-107-005 (20181119)

7. Utilities.

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

stp-107-065 (20080501)

Coordinate construction activities with a call to Diggers 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 facilities, and maintain code clearances from overhead facilities at all times.

Contact each utility company listed in the plans prior to preparing bids to obtain current information on the status of existing and any newly relocated utility facilities within the project limits.

The following utility companies have facilities within the project area that need adjustments:

AT&T Wisconsin – Communication Line

City of Milwaukee – Sewer

City of Milwaukee – Street Lighting

City of Milwaukee – Water

City of Milwaukee – Wisconsin Signal

City of Milwaukee – City Underground Conduit

Milwaukee Metropolitan Sewerage District – Sewer

PaeTec Communications, LLC – Communication Line

Village of Brown Deer – Sewer

Village of Brown Deer – Water

Wisconsin Department of Transportation – Street Lighting

Wisconsin Department of Transportation – Wisconsin Signal

We Energies – Electricity

We Energies – Gas/Petroleum

The following utility companies have facilities within the project area, and there is a potential need for adjustments:

- **AT&T Local Network**
- **ATR Pull Boxes**
- **CenturyLink Communications, LLC**
- **Charter Communications**
- **Level 3 Communications LLC**

The following utility companies have facilities within the project area; however, no adjustments are anticipated:

- **ATC Management, Inc.**
- **Midwest Fiber Networks LLC**
- **Sprint Communications Co LP**

8. Municipality Acceptance of Sanitary Sewer and Water Main Construction.

Both the department and Enter the name of the municipality (City of, Town of, Village of) personnel will inspect construction of sanitary sewer and water main under this contract. However, construction staking, testing, and acceptance of the sanitary sewer and water main construction will be by the Enter the name of the municipality (City of, Town of, Village of).

stp-105-001 (20140630)

9. Referenced Construction Specifications.

Construct the work enumerated below conforming to the Enter the name of the referenced specification. If there is a discrepancy or conflict between the referenced specification and the standard specifications regarding contract administration, part 1 of the standard specifications governs.

Conform to the referenced construction specifications for the following:

List work elements conforming to the referenced construction specifications.
List work elements conforming to the referenced construction specifications.
List work elements conforming to the referenced construction specifications.
List work elements conforming to the referenced construction specifications.

stp-105-002 (20130615)

10. Other Contracts

Coordinate your work in accordance to standard spec 105.5.

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

The following projects may be under construction concurrently with the work under this contract. Coordinate activities, detours, work zone traffic control, roadway and lane closures, and other work items as required with other contracts.

2270-04-70
STH 57
Teutonia Ave to Mequon Rd
Milwaukee and Ozaukee Counties
Recondition
8/10/2021
Allen Gilbertson
(262) 548-8817
***As part of project 2270-04-70, the Wisconsin Central Railroad (CN) will be completing work at the at-grade crossing with STH 100 (Brown Deer Rd). This will require the complete closure of STH 100 for approximately two (2) weeks.**

2150-00-72
STH 100 (Brown Deer Rd)
B-40-504 and B-40-505
Milwaukee County
Bridge Rehabilitation
8/10/2021
Allen Gilbertson
(262) 548-8817

2565-07-70
STH 57 (Green Bay Rd)
Teutonia Ave Intersection
Milwaukee County
Reconstruction
8/10/2021
Allen Gilbertson
(262) 548-8817

11. Railroad Insurance and Coordination - Wisconsin Central Ltd (CN)

A. Description

Comply with standard spec 107.17 for all work affecting Wisconsin Central Ltd (CN) property and any existing tracks.

A.1 Railroad Insurance Requirements

In addition to standard spec 107.26, provide railroad protective liability insurance coverage as specified in standard spec 107.17.3. Insurance is filed in the name of Wisconsin Central Ltd and Its Parents (CN).

Notify evidence of the required coverage, and duration to Jackie Macewicz, Manager Public Works; 3912 S. Pokegama Road, Superior, WI 54880; Telephone (715) 345-2503; E-mail: Jackie.macewicz@cn.ca.

Also send a copy to the following: Paul Derksen, SE Region Railroad Coordinator; 141 N. W. Barstow Street, Waukesha, WI 53188; Telephone (262) 548-8770; E-mail: paul.derksen@dot.wi.gov.

Include the following information on the insurance document:

- Project ID: 2150-00-71
- Project Location: Brown Deer WI
- Route Name: STH 100 (Brown Deer Rd) Milwaukee Co.
- Crossing ID: 386836L
- Railroad Subdivision: Saukville Sub
- Railroad Milepost: 98.3
- Work Performed: Traffic control for project.

A.2 Train Operation

Approximately 6 through freight trains operate weekly at up to 25 mph.

A.3 Names and Addresses of Railroad Representatives for Consultation and Coordination

Construction Contact

Jackie Macewicz, Manager Public Works; 3192 S. Pokegama Road, Superior, WI 54880; Telephone (715) 345-2503; E-mail jackie.macewicz@cn.ca for consultation on railroad requirements during construction.

Amend standard spec 108.4 to include the railroad in the distribution of the initial bar chart, and monthly schedule updates. The bar chart shall specifically show work involving coordination with the railroad.

Flagging Contact

Submit by US Mail a "Request for Flagging Services and Cable Location" form with prepayment to: Flagging-US, 17641 South Ashland Avenue, Homewood, IL 60430; Flagging_US@CN.CA . The form can be obtained at:

http://www.cn.ca/en/safety/employees/contractors-erailsafe/utility-installations

Requests for flagging and cable locates can take up to five business days after the railroad receives the paperwork. Reference the Wisconsin Milepost and Subdivision located in A.1. Advise Wisconsin Central Ltd (CN) that the flagging services are to be billed at the rate for a public highway project.

Cable Locate Contact

In addition to contacting Diggers Hotline, follow the procedure listed under Flagging Contact.

Wisconsin Central Ltd (CN) will only locate railroad owned facilities buried in the railroad right-of-way. The railroad does not locate any other utilities.

A.4 Work by Railroad

The railroad will perform the work described in this section, except for work described in other special provisions, and will be accomplished without cost to the contractor. none

A.5 Temporary Grade Crossing

If a temporary grade crossing is desired, submit a written request to the railroad representative named in A.3 at least 40 days prior to the time needed. Approval is subject to the discretion of the railroad. The department has made no arrangements for a temporary grade crossing.

A.6 Rail Security Awareness and Contractor Orientation

All employees of contractors who work on CN properties are required to have minimum CN Safety and Security Awareness training. This training can be obtained by registering and following the CN link through www.contractororientation.com. This training is good for a period of one year.

a. Exception: CN has exempted from this training those it classifies as "Delivery Persons". Delivery Persons include contractors such as UPS, FedEx, trucking companies, etc. who merely access the property to supply materials or equipment.

The security awareness and contractor orientation certification must be renewed for projects that will carry over beyond the one-year period. Contractor and subcontractor employees shall wear the identification

badge issued by www.contractororientation.com when on railroad right-of-way. Costs associated with training and registration are incidental to other items in the contract.

If employees of contractors have a current eRailSafe badge for CN then an additional badge is not required from www.contractororientation.com.

stp-107-026 (20190717)

12. Railroad Insurance and Coordination - Union Pacific Railroad Company

A. Description

Comply with standard spec 107.17 for all work affecting Union Pacific Railroad Company property and any existing tracks.

A.1 Railroad Insurance Requirements

In addition to standard spec 107.26, provide railroad protective liability insurance coverage as specified in standard spec 107.17.3. Insurance is filed in the name of Union Pacific Railroad Company.

Notify evidence of the required coverage, and duration to David C. LaPlante, Senior Manager-Real Estate-Special and Public Projects, 1400 Douglas St. STOP 1690, Omaha, NE 68179; Telephone: (402) 544-8563; E-mail: dclaplante@up.com.

Also send a copy to the following: Paul Derksen, SE Region Railroad Coordinator; 141 N. W. Barstow Street, Waukesha, WI 53188; Telephone (262) 548-8770; E-mail: paul.derksen@dot.wi.gov.

Include the following information on the insurance document:

- Project ID: 2150-00-71
- Project Location: Milwaukee WI
- Route Name: N. 91st Street
- Crossing ID: 178902Y
- Railroad Subdivision: Granville Industrial Lead
- Railroad Milepost: 97.14
- Work Performed: Traffic Control

A.2 Train Operation

Approximately 2 through freight trains operate daily at up to 10 mph. Switching movements occur at this crossing.

A.3 Names and Addresses of Railroad Representatives for Consultation and Coordination

Construction Contact

Chris T. Keckeisen, Manager Special Projects - Industry & Public Projects Engineering Department; 1400 Douglas, MS 0910, Omaha, NE, 68179; Telephone (402) 5445131; E-mail ctkeckei@up.com or Richard Ellison, Project coordinator, 207 Powell Avenue, Labadie, MO, 63055; Telephone (847) 323-7197; E-mail richardellison@up.com for consultation on railroad requirements during construction.

Amend standard spec 108.4 to include the railroad in the distribution of the initial bar chart, and monthly schedule updates. The bar chart shall specifically show work involving coordination with the railroad.

Flagging Contact

See Construction Contact. If more than 30 days of flagging is required contact UP 30 days prior to needing a flagger on site. Reference the Wisconsin Milepost and Subdivision located in A.1.

Cable Locate Contact

In addition to contacting Diggers Hotline, contact the UP Call Before You Dig line at (800) 336-9193 at least five working days before the locate is needed. Normal business hours are 6:30 AM to 6:30 PM,

Central Time, Monday through Friday, except holidays and are subject to change. Calls will be routed at all times in case of an emergency. Reference the Wisconsin Milepost and Subdivision located in A.1.

UP will only locate railroad owned cable buried in the railroad right-of-way. The railroad does not locate any other utilities.

A.4 Work by Railroad

The railroad will perform the work described in this section, except for work described in other special provisions, and will be accomplished without cost to the contractor. None.

A.5 Temporary Grade Crossing

If a temporary grade crossing is desired, submit a written request to the railroad representative named in A.3 at least 40 days prior to the time needed. Approval is subject to the discretion of the railroad. The department has made no arrangements for a temporary grade crossing.

A.6 Rail Security Awareness and Contractor Orientation

Prior to entry on railroad right-of-way, the contractor shall arrange for on-line security awareness and contractor orientation training and testing and be registered through "e-RAILSAFE" for all contractor and subcontractor employees working on railroad right-of-way. See e-railsafe.com "Information". The security awareness and contractor orientation training is shown under the railroad's name.

The department has secured right of entry to railroad property; neither the contractor nor subcontractors or their employees will be required to sign a right of entry form.

The security awareness and contractor orientation certification is valid for 2 year(s) and must be renewed for projects that will carry over beyond the 2 year period. Contractor and subcontractor employees shall wear the identification badge issued by e-RAILSAFE when on railroad right-of-way. Costs associated with training and registration are incidental to other items in the contract.

stp-107-026 (20190717)

13. 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)

14. 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 Vida Shaffer, design Project Manager, at (414) 333-9116. Post the permit in a conspicuous place at the construction site.

stp-107-056 (20180628)

15. Construction Over or Adjacent to Navigable Waters.

The Beaver Creek is classified as a state navigable waterway under standard spec 107.19.

stp-107-060 (20171130)

16. Notice to Contractor – Contamination Beyond Construction Limits.

The department completed testing for soil and groundwater contamination for locations within this project where excavation is required. Testing indicated that the lead concentration in groundwater at the following locations exceeds the Wisconsin Pollution Discharge Elimination System (WPDES) limits for excavation dewatering discharge to surface waters:

1. STH 100 Station 403+00 to 404+00, from reference line to project limits left.
2. STH 100 Station 429+00 to 430+00, from reference line to project limits right.

The groundwater at the above locations is expected to be beyond the excavation limits and/or excavation dewatering is not expected to be necessary to complete the work under this project. Control construction operations at these locations to ensure that excavation dewatering is not necessary. If excavation dewatering is necessary at these locations, terminate excavation in these areas, notify the engineer, and obtain necessary approvals prior to excavation dewatering.

The Hazardous Materials Report is available by contacting: Andrew Malsom, Wisconsin Department of Transportation, 141 NW Barstow, Waukesha, WI 53187, 262-548-6705, Andrew.Malsom@dot.wi.gov.

stp-107-100 (20050901)

17. Archaeological Site.

47MI137 (unnamed) site is located approximately STA 265+00 to STA 297+25, from centerline to 2400 ft LT within the limits shown on the plans.

47MI393 (Hunkel) site is located approximately STA 456+50 to 250 ft East of Upper River Rd, from 275 ft RT and 2500 ft LT of centerline within the limits shown on the plans.

Notify the Bureau of Technical Services – Environmental Process and Document Section (BTS-EPDS) at (608) 266-0099 at least two weeks before commencement of any ground disturbing activities beyond the existing back edge of sidewalk at or near the 47MI137 (unnamed) site and any ground disturbing

activities beyond the existing right-of-way limits at or near the 47MI393 (Hunkel) site. BTS-EPDS will determine if a qualified archaeologist will need to be on site during construction of this area.

Do not use the site for borrow or waste disposal. Do not use the site area not currently capped by asphalt/concrete for the staging of personnel, equipment and/or supplies.

stp-107-220 (20180628)

18. Erosion Control.

Supplement standard spec 107.20 with the following:

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

Provide the ECIP 14 days prior to the pre-construction meeting. Provide 1 copy of the ECIP to the department and 1 copy of the ECIP to the WDNR Liaison Kristina Betzold, (414) 263-8517, kristina.betzold@wisconsin.gov. Do not implement the ECIP without department approval and perform all work conforming to the approved ECIP.

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

Stockpile excess materials or spoils on upland areas away from wetlands, floodplains, and waterways. Immediately install perimeter silt fence protection around stockpiles. If stockpiled materials will be left for more than 14 days, install temporary seed or other temporary erosion control measures the engineer orders.

Re-apply topsoil on graded areas, as the engineer directs, immediately after the grading is completed within those areas. Seed, fertilize, and mulch/erosion mat top-soiled areas, as the engineer directs, 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.

Dewatering (Mechanical Pumping) for Bypass Water (sediment-free) Operations

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

Dewatering (Mechanical Pumping) for Treatment Water (sediment-laden) Operations

If dewatering operations require pumping of water containing sediments (sand, silt, and clay particles), the discharge will not be allowed to leave the work site or discharge to a storm water conveyance system without sediment removal treatment. Do not allow any 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.

Prior to each dewatering operation, submit to the department a separate ECIP amendment for sediment removal. Guidance on dewatering can be found on the Wisconsin DNR website located in the Storm Water Construction Technical Standards, Dewatering Code #1061,

http://dnr.wi.gov/topic/stormwater/standards/const_standards.html.

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. Dewatering is considered incidental to the contract.

Maintaining Drainage

Maintain drainage at and through worksite during construction conforming to standard spec 107.20, 204.3.2.1(3), 205.3.3 and 520.3.1(2). 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 contract.

SER-107-003 (20161220)

19. Material Stockpile and Equipment Storage.

Supplement standard spec 107.9 with the following:

Submit a map showing all proposed material stockpile and equipment storage locations to the engineer 14 calendar days before either the preconstruction conference or proposed use, whichever comes first. Identify the purpose; length, width & height; and duration of material stockpile or equipment storage at each location. Obtain written permission and necessary permits from the property owner and submit two copies to the engineer. Submit proposed material stockpiling and equipment storage locations as part of the ECIP for approval. Do not stockpile material or store equipment until the engineer approves.

Include one or both of the statements below UNLESS design & construction supervisors, and PDS Chief(s) agree one or both of the statements are not needed: (Addition of restrictions, revise to fit project, remove if not used)

Material stockpiles and equipment storage on CLICK and insert location(s) is limited to a height of CLICK and insert height, 5 for example feet and CLICK and insert duration, 14 for example calendar days unless the engineer approves otherwise in writing.

Material stockpiles and equipment storage on CLICK and insert location(s) is not allowed unless the engineer approves otherwise in writing.

SER-107-011 (20200504)

20. Coordination with Businesses and Residents.

Select from drop-down. arrange and conduct a meeting between the contractor, the department, affected residents, local officials and business people to discuss the project schedule of operations including vehicular and pedestrian access during construction operations. Hold the first meeting at least one week before the start of work under this contract and ***Select from drop-down.*** The ***Select from drop-down.*** arrange for a suitable location for meetings that provides reasonable accommodation for public involvement. The department will prepare and coordinate publication of the meeting notices and mailings for meetings. The contractor shall schedule meetings with at least 2 weeks prior notice to the engineer to allow for these notifications.

stp-108-060 (20141107)

21. Notice to Contractor – Milwaukee County Transit System.

The Milwaukee County Transit System (MCTS) operates the following bus routes within the construction limits:

Route 12	Teutonia – Hampton
Route 67	N 76th – S 84th
Route 76	N 60th – S 70th

Invite MCTS to all coordination meetings between the contractor, the department, local officials and business people to discuss the project schedule of operations including vehicular and pedestrian access during construction operations.

Notify MCTS at least ten (10) business days prior to beginning work. If necessary, MCTS will remove their existing bus stop signs and shelters before work begins and re-install or replace bus stop signs and shelters before new pavement opens to vehicular traffic. The contractor shall provide temporary bus stops with ADA compliant pedestrian accommodations, to be paid under separate bid item. Temporary bus stops must be connected to the sidewalk network when one is available. MCTS will provide temporary bus stop signs.

The MCTS contacts are:

Melanie Flynn
Milwaukee County Transit System – Routes
1942 N. 17th St.
Milwaukee, WI 53205
Phone: (414) 343-1764
Mflynn@MCTS.org

Andy Tillman
Milwaukee County Transit System – Bus Stops
1942 N. 17th St.
Milwaukee, WI 53205
Phone: (414) 343-1728
Atillman@MCTS.org

David Locher
Transportation Specialist
Phone: (414) 343-1727
Dlocher@MCTS.org

SER-107-004 (20180413)

22. 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 Alternation) to The Federal Aviation Administration (FAA) at least 45 days before starting construction.

Contact Joshua Cothren (608-266-6812), WisBOA airspace/tall structure manager for assistance submitting forms.

Sef-107-020 (20171004)

23. Notice to Contractor – Traffic Signal Equipment Lead Time.

Order traffic signal equipment as soon as possible to assure the equipment is procured in a timely fashion and, therefore, installed, inspected, and ready for turn-on at the required date.

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

A Description

This special provision describes removing a portion of concrete surfaces as the plans show and conforming to standard spec 204.

B (Vacant)

C Construction

C.1 Equipment

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

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

C.2 Methods

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

Perform the removal operation in such a manner as to preclude damage to the remaining pavement and results in a reasonable uniform plane surface free of excessive large scarification marks and having a uniform transverse slope.

The sequence of removal operations shall be such that no exposed longitudinal joints 2 inches or more in depth remain during non-working hours. Windrowing or storing of the removed material on the roadway will only be permitted in conjunction with a continuous removal and pick-up operation. During non-working hours, clear the roadway of all materials and equipment.

Removed pavement becomes the property of the contractor. Properly dispose of it as specified in standard spec 204.3.1.3.

D Measurement

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

E Payment

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

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

Payment is in full compensation for removing the concrete; and for disposing of materials.

stp-204-041 (20080902)

405-020 DELETE ALL DESIGNER NOTES FROM YOUR SPECIAL PROVISIONS

Use this STSP and the Coloring Concrete Custom standard spec bid item to specify a custom color for full depth colored concrete. If more than one custom color is required under the contract, use one special provision with more than one Coloring Concrete Custom standard spec bid item distinguished by their supplemental descriptions.

Modify the provision by filling in the fields for the following:

1. ***Color Name: Specify a name for the color. Use a prefix to indicate the agency specifying the color (Wausau Limestone, NER green, etc.).***

   Do not use WisDOT because that prefix is reserved for standard colors used state-wide. Currently there is only one state-wide color "WisDOT Red".

2. ***Pigment: Specify a non-fading pigment conforming to ASTM C979.***

3. ***Dosage: Specify the minimum dosage of pigment as a percent by weight of the total cementitious material***

(portland + fly ash + slag) in the concrete mix.

4. ***Federal Color Designation Number: Specify the 5 digit color number that most closely approximates the desired color. Online color plates are available at:***

http://www.federalstandardcolor.com/

5. ***Location of Comparison Sample: Specify where the contractor needs to go to contractually color match their material to a colored concrete sample.***

Add other project-specific requirements not covered under standard spec 405. Do not modify payment to make other work incidental to this item. The department may or may not participate in the costs for "architectural enhancements" but will participate in the costs for the concrete component being colored.

25. Coloring Concrete Custom, Item 405.0200.

This special provision describes coloring concrete [color name] for incorporation full-depth in work constructed under other contract bid items. Conform to standard spec 405 as modified in this special provision.

Replace standard spec 405.2.1.1(1) with the following:

(1) Integrally color concrete using non-fading pigments conforming to ASTM C979.

- For [color name]: use synthetic [pigment] at a loading of [dosage] percent or more by weight of total cementitious material in the mix. Match the concrete color in reasonably close conformance with [color name] color, which is similar to Federal Standard 595 - FS [federal color designation #].

Replace standard spec 405.2.1.1(3) with the following:

(3) The department will accept the color based on comparison to color samples available for viewing at [location of comparison sample].

stp-405-020 (20190618)

26. Concrete Pavement Joint Layout, Item 415.5110.S.

A Description

This special provision describes providing a concrete pavement or concrete base joint layout design for intersections and marking the location of joints in the field

B (Vacant)

C Construction

Plan and locate all points necessary to establish the horizontal position of the transverse and longitudinal joints in the concrete to prevent uncontrolled cracking. Submit a joint layout design to the engineer at least 7 calendar days before paving each intersection. Do not lay out joints until the engineer has reviewed the joint layout design. Mark the location of concrete joints in the field. Follow the plan details for joints in concrete making adjustments as required to fit field conditions.

D Measurement

The department will measure Concrete Pavement Joint Layout as a single lump sum unit for all joint layout designs and marking 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
415.5110.S	Concrete Pavement Joint Layout	LS

Payment is full compensation for providing the intersection joint layout designs and marking all joints in the field.

The department will adjust pay for crack repairs as specified in standard spec 415.5.3.

stp-415-020 (20170615)

27. 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/ft^3. 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/ft^3. 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 $\geq$ 75	Approved[1]	Material paid for according to Section E	Proceed with Production
50 $\leq$ 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:

i. Passing/Resolution of Split Sample Comparison
ii. Volumetrics/mix PWL value $\geq$ 75
iii. Density PWL value $\geq$ 75
iv. 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 (PWL)	*PAYMENT FACTOR, PF (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 $PF_{air\ voids}$ & $PF_{density}$

[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 ($PF_{air\ voids}$) and density ($PF_{density}$) will be determined. $PF_{air\ voids}$ will be multiplied by the total tonnage produced (i.e., from truck tickets), and $PF_{density}$ 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.

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28. 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 (V_a) 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 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 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.

i. 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.

ii. 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.

i. If referee testing results in an increased calculated pay factor, the department will pay for the cost of the additional referee testing.

ii. 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 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.

i. 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.

ii. 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.

i. 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.

ii. 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.]

iii. 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, 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:

PAY FACTOR FOR HMA PAVEMENT AIR VOIDS & DENSITY

PERCENT WITHIN LIMITS (PWL)	*PAYMENT FACTOR, PF (percent of $65/ton)*
$\geq$ 90 to 100	PF = ((PWL – 90) * 0.4) + 100
$\geq$ 50 to < 90	(PWL * 0.5) + 55
<50	50%[1]

where PF is calculated per air voids and density, denoted $PF_{air\ voids}$ & $PF_{density}$

[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 ($PF_{air\ voids}$) and density ($PF_{density}$) will be determined. $PF_{air\ voids}$ will be multiplied by the total tonnage placed (i.e., from truck tickets), and $PF_{density}$ 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:

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.

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29. 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

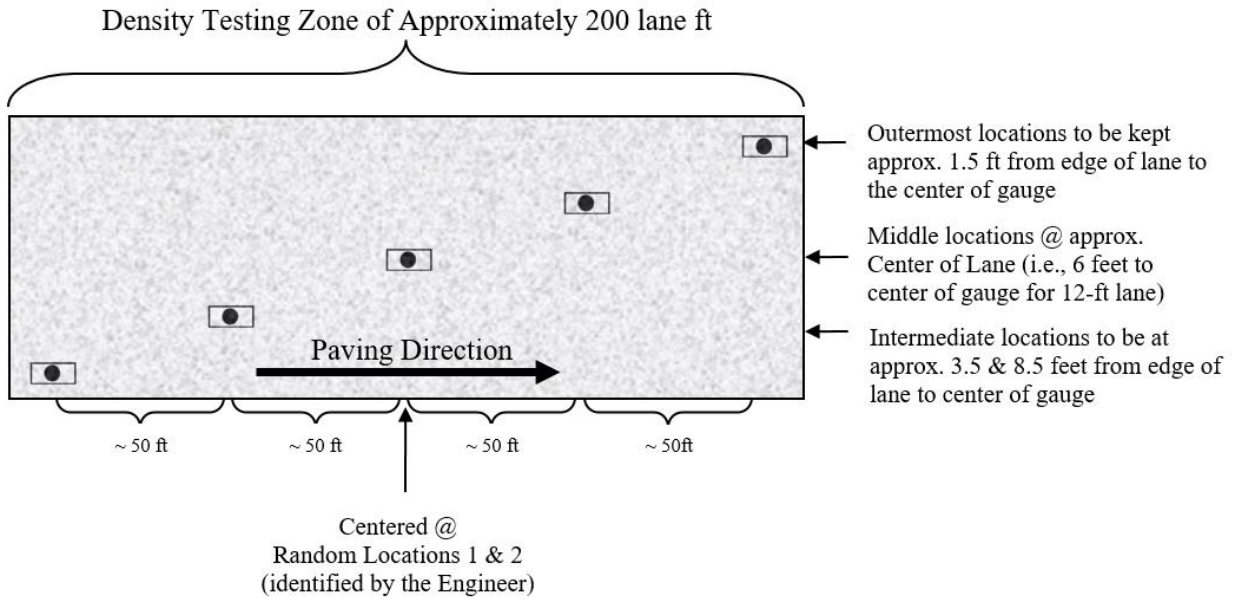


Figure 1: Nuclear/Core Correlation Location Layout

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:

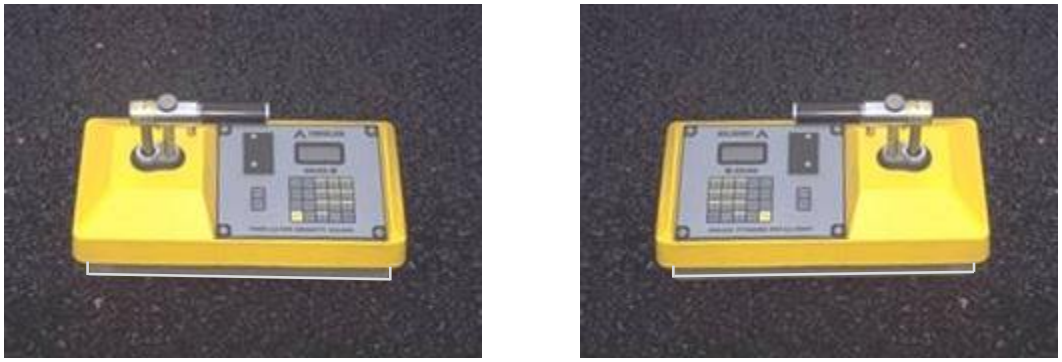
- two one-minute nuclear density gauge readings for QC team*
- two one-minute nuclear density gauge readings for QV team*
- pavement core sample

*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:



(a) (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.

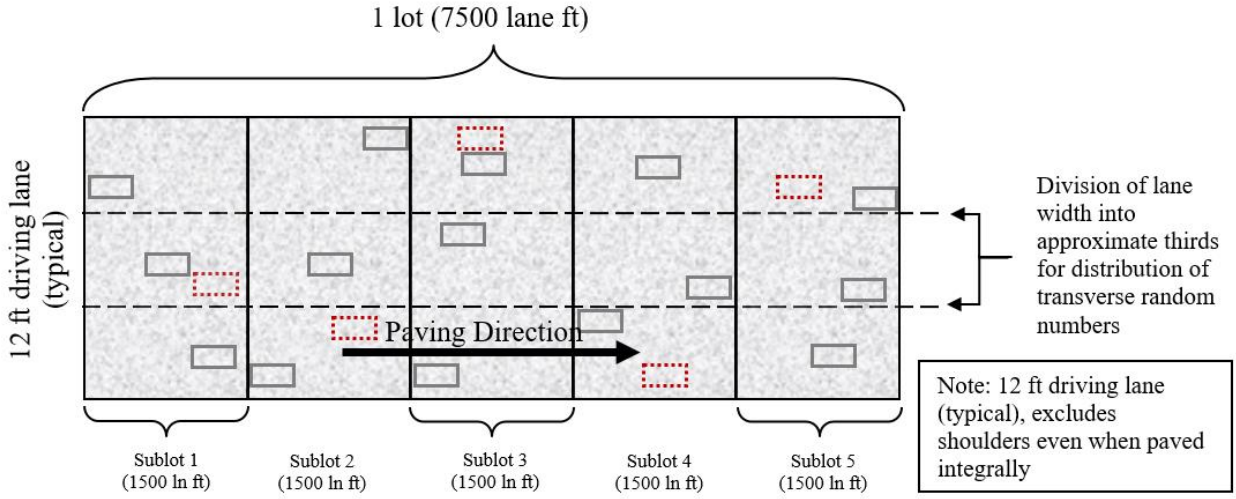


Figure 4: Locations of main lane HMA density testing (QC=solid lines, QV=dashed)

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

Expected production for a contract is 12,400 tons. The number of required samples is determined based on this expected production (per HMA PWL QMP SPV) and is determined by the random sample calculation.

Sample 1 – from 50 to 750 tons
Sample 2 – from 751 to 1500 tons
Sample 3 – from 1501 to 2250 tons
Sample 4 – from 2251 to 3000 tons
Sample X – ……
Sample 16 – from 11,251 to 12,000 tons
Sample 17 – from 12,001 to 12,400 tons

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:

$$\frac{1500\ ft\ \times\ 12\ ft}{9\ sf/sy} \times \frac{2\ in\ \times 112\ lb/sy/in}{2000\ lb/ton} = 224\ tons$$

stp-460-055 (20191121)

30. 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	___
SIDE ROADS, CROSSOVERS, TURN LANES, & RAMPS	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 may investigate the acceptability of that material.

[2] Includes parking lanes, 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.

[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 as modified here within:

a) Testing at 50 foot increments both ahead and behind the unacceptable site
b) Continued 50 foot incremental testing until test values indicate higher than or equal to -3.0 percent from target joint density.
c) 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.
d) 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 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 ABOVE/BELOW SPECIFIED MINIMUM	PAY ADJUSTMENT PER LINEAR FOOT
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

(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).

(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.

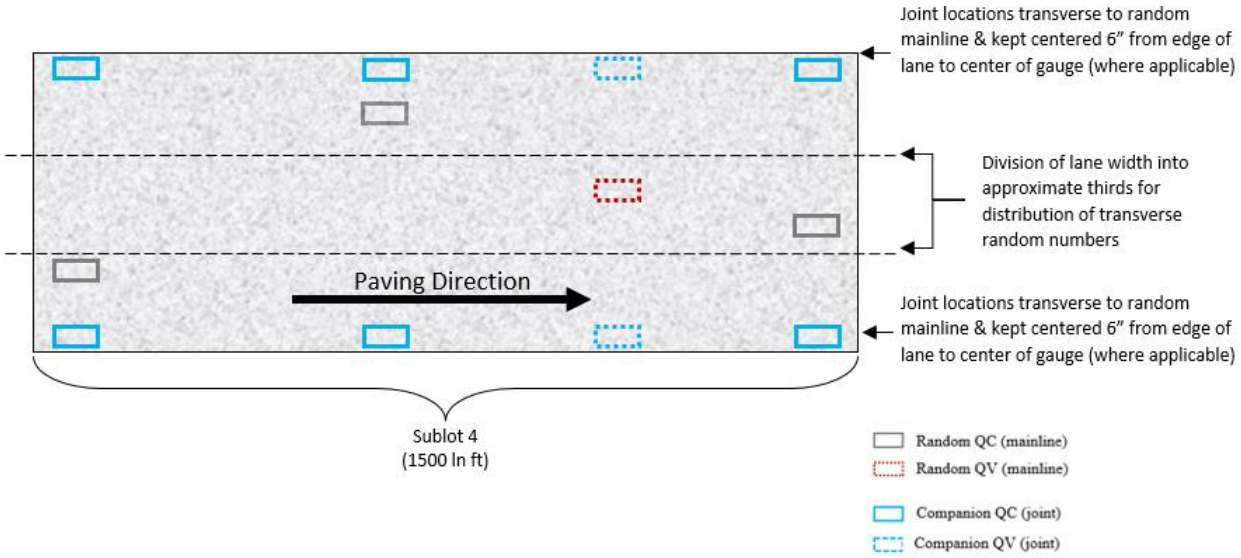
bts-Longitudinal Joint Density (20181215)

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:


Joint locations transverse to random mainline & kept centered 6" from edge of lane to center of gauge (where applicable)
Division of lane width into approximate thirds for distribution of transverse random numbers
Paving Direction
Joint locations transverse to random mainline & kept centered 6" from edge of lane to center of gauge (where applicable)
Sublot 4
(1500 ln ft)
Random QC (mainline)
Random QV (mainline)
Companion QC (joint)
Companion QV (joint)

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

31. 611.0420 Reconstructing Manholes; 611.0430 Reconstructing Inlets

Conform to standard spec 611 as modified in this special provision.

Append 611.3.5 of the standard specifications with the following:

(3) Repairs will be required to the full depth of the structure.

Append 611.5 of the standard specifications with the following:

The department will pay separately for Sawing Concrete, Pavement Removal, Asphaltic Surface Temporary, Cover Plates Temporary, Monolithic Shim Concrete and other items as shown in the plans.

32. Adjusting Manhole Covers.

This special provision describes adjusting manhole covers conforming to standard spec 611 as modified in this special provision.

Adjust manhole covers located in pavement areas in two separate operations. Initially, remove designated manhole covers along with sufficient pavement to permit installation of temporary cover plate over the opening. Fill the excavated area with asphaltic pavement mixture, which shall remain in place until contract milling and paving operations permit setting the manhole frames to grade. During the second phase, remove the asphaltic pavement mixture surrounding the manhole plus the temporary

cover plate, and set the manhole cover to final grade. The department will measure and pay for the items of asphaltic pavement mixture, temporary cover plate, milling, and paving separately.

Revise standard spec 611.3.7 by deleting the last paragraph.

Set the manhole frames so that they comply with the surface requirements of standard spec 450.3.2.9. At the completion of the paving, a 6-foot straightedge shall be placed over the centerline of each manhole frame parallel to the direction of traffic. A measurement shall be made at each side of the frame. The two measurements shall be averaged. If this average is greater than 5/8 inches, reset the manhole frame to the correct plane and elevation. If this average is 5/8 inches or less but greater than 3/8 inches, the manhole frame shall be allowed to remain in place but shall be paid for at 50 percent of the contract unit price.

If the manhole frame is higher than the adjacent pavement, the two measurements shall be made at each end of the straightedge. These two measurements shall be averaged. The same criteria for acceptance and payment as above, shall apply.

stp-611-005 (20030820)

33. Cover Plates Temporary, Item 611.8120.S.

A Description

This special provision describes providing and removing steel plates to cover and support asphaltic pavement and traffic loading at manholes, inlets and similar structures during milling and paving operations.

B Materials

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

C (Vacant)

D Measurement

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

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
611.8120.S	Cover Plates Temporary	EACH

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

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

stp-611-006 (20151210)

34. Topsoil and Salvaged Topsoil.

Add the following to standard spec 625.2:

(3) Furnish material that is relatively free from large roots, sticks, weeds, brush, stones, litter, and waste products.

(4) Do not use surface soils from ditch bottoms, drained ponds, and eroded areas, or soils which are supporting growth of NR 40 listed plants and noxious weeds or other undesirable vegetation. Ensure that the material conforms to the following:

Topsoil Requirements	Minimum Range	Maximum Range
Organic Matter*	5%	20%
Clay	5%	30%
Silt	10%	70%
Sand & Gravel	10%	70%

*Organic matter determined by loss on ignition test of samples oven dried to constant weight at 212 F (100 C).

SER-625-001 (20160831)

35. Landscape Planting Surveillance and Care Cycles.

If the care specialist fails to perform any of the required care cycles as specified in standard spec 632.3.19.1, the department will assess daily damages in the amount of $1000 to cover the cost of performing the work with other forces. The department will assess these damages for each day the requirements of the care cycle remain incomplete, except when the engineer extends the required time period.

Replace standard spec 632.3.18.1.1 (1) with the following:

The plant establishment period shall follow the completion of planting and will end at the contract completion.

Delete standard spec 632.3.18.1.2 Two Growing Season Plant Establishment Period.

36. Signs Type I and II.

Furnish and install mounting brackets per approved product list for type II signs on overhead sign supports incidental to sign. For type II signs on sign bridges use aluminum vertical support beams noted above incidental to sign.

Supplement standard spec 637.2.4 with the following:

Use stainless steel bolts, washers and nuts for type I and type II signs mounted on sign bridges or type I signs mounted on overhead sign supports. Use clips on every joint for Sign Plate A 4-6 when mounted on a sign bridge or overhead sign support. Inspect installation of clips and assure bolts and nuts are tightened to manufacturers recommended torque values.

Use aluminum vertical sign support beams that have a 5-inch wide flange and weigh 3.7 pounds per foot, if the L-brackets are 4 inches wide then use 4 inch wide flange beams weighing 3.06 pounds per foot. Contractor shall measure the width of the L-brackets on existing structures of determine the width needed for sign support beams.

Use beams a minimum of six feet in length or equal to the height of the sign to be supported, whichever is greater. Use U-bolts that are made of stainless steel, one-half inch diameter and of the proper size to fit the truss cords of each sign bridge. Install vertical sign support beams on each sign and use new U-bolts to attach each beam to the top and bottom cord of the sign bridge truss.

For type II signs on overhead sign supports follow the approved product list for mounting brackets.

Replace standard spec 637.3.3.2(2) with the following:

(2) Install Type I Signs at the offset stated in the plan, which shall be the clear distance between the edge of mainline pavement right edgeline and the near edge of the sign.

Supplement standard spec 637.3.3.3(3) with the following:

Furnish and install new aluminum vertical sign support beams on each sign and new U-bolts to attach each beam to the top and bottom cord of the sign bridge truss for Type I or Type II Signs and Type I signs on overhead sign supports incidental to sign.

Add the following to standard spec 641.2:

Submit shop drawings for sign bridges and overhead sign supports to SE Region Traffic Operations Engineer, Tom Heydel and Bureau of Structures Design.

SER-637-001 (20170621)

37. 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)

38. Traffic Control Interim Lane Closure, Item 643.4100.S.

A Description

This special provision describes closing a state trunk highway traffic lane.

B (Vacant)

C Construction

Install and reposition traffic control devices as required to close a traffic lane. Remove and return the devices to their previous configuration when the closure is no longer required.

D Measurement

The department will measure Traffic Control Interim Lane Closure as each individual reposition/return cycle acceptably completed. The department will not measure additional moves or configuration changes as might be required solely to accommodate the contractor's operations.

The department will measure the closures by traffic lane and roadway. The department will not measure multiple closures in the same traffic lane on a project.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
643.4100.S	Traffic Control Interim Lane Closure	EACH

Payment is full compensation for closing and re-opening the affected traffic lane.

stp-643-030 (20170615)

39. Optimized Aggregate Gradation Incentive, Item 715.0710.

Description

This special provision describes optional contractor optimized aggregate gradation, optional optimized mixture designs, and associated additional requirements for class 1 concrete used in concrete pavements **ONLY at the full-depth colored concrete intersections**. Conform to standard specification part 7 and as follows:

Optimized Aggregate Gradation

Replace standard spec 715.2.2 with the following:

A Job Mix Formula (JMF) contains all of the following:

- Proportions for each aggregate fraction conforming to table 1.
- Individual gradations for each aggregate fraction.
- Composite gradation of the combined aggregates including working ranges on each sieve in accordance with table 2.

Submit the target JMF and aggregate production gradation test results to the engineer for review 10 business days before initial concrete placement.

TABLE 1 TARANTULA CURVE GRADATION BAND

SIEVE SIZES	PERCENT RETAINED
2 in.	0
1 1/2 in.	≤5
1 in.	≤16
3/4 in.	≤20
1/2 in.	4-20
3/8 in.	4-20
No. 4	4-20
No. 8[1]	≤12
No. 16[1]	≤12
No. 30[1] [2]	4-20
No. 50 [2]	4-20
No. 100 [2]	≤10
No. 200 [2]	≤2.3

[1] Minimum of 15% retained on the sum of the #8, #16, and #30 sieves.

[2] Conform to 24-34% retained of fine sand on the #30-200 sieves.

TABLE 2 JMF WORKING RANGE

SIEVE SIZES	WORKING RANGE[1] (PERCENT)
2 in.	+/- 5
1 1/2 in.	+/- 5
1 in.	+/- 5
3/4 in.	+/- 5
1/2 in.	+/- 5
3/8 in.	+/- 5
No. 4	+/- 5
No. 8	+/- 4
No. 16	+/- 4
No. 30	+/- 4
No. 50	+/- 3
No. 100	+/- 2
No. 200	≤ 2.3

[1] Working range limits of composite gradation based on moving average of 4 tests.

Replace standard spec 710.5.6 with the following:

Determine the complete gradation, including P200, using a washed analysis for both fine and coarse aggregates. Test each stockpile for each component aggregate once per 1,500 cubic yards during concrete production.

Take samples by one of the following sampling methods:

1. At the belt leading to the weigh hopper.
2. Working face of the stock piles at the concrete plant if approved by the engineer.

The department will take independent QV samples using the same sampling method the contractor uses for QC sampling. QV samples may be taken by the contractor's QC personnel if witnessed by the department's QV personnel. The department will split each QV sample and retain half for all dispute

resolutions. If QV test results conform to the specification, the department will take no further action. If QV test results are nonconforming, add the QV to the QC test results as if it were an additional QC test.

If, during concrete production, the moving average of four for any sieve fall outside the allowable JMF working range do the following:

1. Notify the engineer of the test results within 1 business day from the time of sampling.
2. Make immediate adjustments to the JMF, within the limits specified in Table 3;
3. Review JMF adjustments with the engineer. Both the contractor and engineer will sign the adjusted JMF if the adjustments comply with Table 3.
4. If the moving average of four falls outside the adjusted allowable working range, stop production and provide a new mix design including JMF to the engineer.

TABLE 3 ALLOWABLE JMF ADJUSTMENTS

SIEVE SIZES	ALLOWABLE ADJUSTMENT (PERCENT)
>= No. 4	+/- 5
No. 8 – No. 30	+/- 4
No. 50	+/- 3
No. 100	+/- 2

Dispute Resolution

The department will resolve disputes as specified in standard spec 106.3.4.3.5 using QV split samples.

Sublot and Lot Size

A sublot consists of up to 1,500 cubic yards. A lot consists of two sublots.

Optimized Concrete Mixtures

The contractor may use a reduced cementitious content for concrete pavement placed if the contractor does the following:

1. Use an optimized aggregate gradation as defined in this special provision.
2. Conform to the additional testing requirements for flexural strength as specified in the contract special provisions.
3. Submit aggregate gradation result records no more than 2 years old when developing the mix design.
4. Determine the volume of voids in the optimized aggregates using ASTM C29.
5. Download and follow the instructions tab of the Optimized Gradation and Mix Design Spreadsheet located at:

   https://wisconsindot.gov/Pages/doing-bus/eng-consultants/cnslt-rsrces/qmp/default.aspx
6. Design an appropriate paste content based upon the Performance-based PCC Mix Design Guide located at:

   https://wisconsindot.gov/Pages/doing-bus/eng-consultants/cnslt-rsrces/qmp/default.aspx
7. Provide a minimum Vpaste/Vvoids of 1.25. (Paste/Void ratio equals the volume of paste divided by the volume of voids.).
8. Evaluate workability of trial batches by following section 6.8 of AASHTO Draft Performance Engineered Concrete Pavement Mixtures Specifications located at:

   https://wisconsindot.gov/Pages/doing-bus/eng-consultants/cnslt-rsrces/qmp/default.aspx
9. Submit trial batch workability results when submitting the mix design.
10. Submit the CP Tech center computer spreadsheet concrete mix design to the engineer for review at least 3 business days before producing concrete.
11. Provide a minimum cement content of 520 pounds per cubic yard, except if using type I, IL, or III cement in a mix where the geologic composition of the coarse aggregate is primarily igneous or metamorphic materials, provide a minimum cement content of 660 pounds per cubic yard.
12. The contractor may use class C fly ash or grade 100 or 120 slag as a partial replacement for cement. For binary mixes use up to 30% fly ash or slag. For ternary mixes use up to 30% fly ash plus slag in combination. Replacement values are in percent by weight of the total cementitious material in the mix.

13. See CMM 8-70.2.2.3 for additional guidance.

Measurement

The department will measure Optimized Aggregate Gradation Incentive by the dollar, for each combined averaged lot of QC test results meeting Table 1. The department will only measure Optimized Aggregate Gradation Incentive at the full-depth colored concrete intersections.

Payment

The department will pay incentive of 3 percent of the contract unit price for concrete pavement only at the full-depth colored concrete intersections under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
715.0710	Optimized Aggregate Gradation Incentive	DOL

stp-715-005 (20191121)

40. Flexural Strength for Concrete Mix Design.

This special provision describes optional testing requirements for flexural strength during the mix design process. Conform to standard spec part 7 as modified in this special provision.

Add the following to standard spec table 701-2:

TEST	TEST STANDARD
Flexural Strength of Concrete	AASHTO T97

Replace 715.2.3.1(1) with the following:

(1) Provide both compressive and flexural strength information to demonstrate the strength of the proposed mix design. Use either laboratory strength data for new mixes or field strength data for established mixes as follows:

1. Use at least 5 pairs of cylinders for compressive strength. Demonstrate that the 28-day compressive strength will equal or exceed the 85 percent within limits criterion specified in 715.5.2.
2. Use at least 5 pairs of beams for flexural strength. Demonstrate that the 28-day flexural strength will equal or exceed 650 psi.

stp-715-010 (20170615)

41. Backfill Slurry, Item SPV.0035.xx.

A Description

This special provision describes furnishing and placing Backfill Slurry. Conform to standard spec 209 except as follows.

B Materials

Replace standard spec 209.2.2 with the following:

(1) Use aggregates that conform to the gradation conforming to standard spec 501.2.5.3 for fine aggregate and for Size No. 1 in standard spec 501.2.5.4. Provide aggregates in the same proportion by weight as for Grade A concrete as in standard spec 501.3.2.2. Weigh aggregates at a batch plant suitable for batching concrete masonry. Mix and deliver to the project site using a truck mixer. Add enough water meeting the requirements of standard spec 501.2.4 to enable the mixture to flow readily.

C Construction

Replace standard spec 209.3 with the following:

Discharge from the truck in a manner to prevent segregation. Completely fill excavation in a single operation. Consolidation or compaction effort will not be required. Twelve hours shall elapse before paving over the backfill.

D Measurement

Replace standard spec 209.4 with the following:

The department will measure Backfill Slurry in volume by the cubic yard of material placed acceptably completed. Such volume shall be computed from actual measurements of the dimensions of the area to

be backfilled. In irregular or inaccessible areas, the engineer may allow volume to be determined by other appropriate methods.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0035.xx	Backfill Slurry	CY

Payment is full compensation conforming to standard spec 209.5.(2) and 209.5.(5).

SER-209-001 (20161208)

42. Shredded Hardwood Bark Mulch, Item SPV.0035.xx.

A Description

This special provision describes furnishing and installing Shredded Hardwood Bark Mulch as shown on the plans, and as hereinafter provided. Minimum mulch thickness to be 3-inches.

B Materials

Shredded Hardwood Bark Mulch shall be natural, shredded hardwood bark mulch, free of growth or germination inhibiting ingredients, and shall be no larger than 4-inches in any dimension, and suitable for top dressing of planting beds. No artificial coloration shall be added.

Samples: Submit sample demonstrating color, size and properties to engineer, for approval prior to construction.

C Construction

The installation of the Shredded Hardwood Bark Mulch shall be according to the plans and details. Keep mulch minimum 2-inches away from all tree trunks, woody stems and herbaceous shoots.

D Measurement

The department will measure Shredded Hardwood Bark Mulch by cubic yard of material, furnished and placed in an acceptable manner.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0035.xx	Shredded Hardwood Bark Mulch	CY

Payment is full compensation for furnishing and installing Shredded Hardwood Bark Mulch.

43. Cleaning Box Culverts, Item SPV.0060.###.

A Description

This special provision describes removing sediments and debris, cleaning, clearing, grubbing, minor grading, and finishing existing ditch flow lines inside and at the upstream or downstream inverts of box culverts as shown on the plans to improve drainage, according to the pertinent requirements of the standard specifications, and as hereinafter provided.

B (Vacant)

C Construction

Remove all sediments and debris inside the existing box culverts. Clear, grub, grade, and shape the ditch flow line as necessary to restore and allow unimpeded flow at the inlet or outlet of each box culvert location. Clear and grub according to standard spec 201. Dispose of surplus material according to standard spec 205.3.12. Place topsoil, fertilizer, seed and mulch in all disturbed areas resulting from these construction activities where riprap is not placed.

D Measurement

The department will measure Cleaning Box Culverts by the individual box culvert, including one or both inverts, 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.###	Cleaning Box Culverts	EACH

Payment is full compensation for furnishing all clearing, grubbing, removing, excavating, grading, shaping, compacting, and restoring the ditch flow line; for furnishing and placing fill, topsoil, fertilizer, seed, and mulch.

44. Curb Ramp Grading, Shaping and Finishing, Item SPV.0060. XX.

A Description

This special provision describes excavating, grading, filling, shaping, compacting, and finishing as necessary to construct each curb ramp location conforming to standard specs 205, 208, 211, 305, 625, 629, and 631, as the plans show, and as follows.

B Materials

Furnish materials as the plans show and engineer directs conforming the standard specs for the following:

Common excavation	205.2
Borrow	208.2
Base Aggregate Dense	305.2
Topsoil or Salvaged Topsoil	625.2
Fertilizer	629.2
Sod Lawn	631.2

C Construction

Construct the final subgrade and base for the curb ramp at the locations on the plans and as the engineer directs. Restore disturbed areas with topsoil or salvaged topsoil, fertilizer, and sod lawn.

Dispose of all surplus and unsuitable material as specified in standard spec 205.3.12.

D Measurement

The department will measure Curb Ramp Grading, Shaping, and Finishing as each individual plan location 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. XX	Curb Ramp Grading, Shaping, and Finishing	Each

Payment is full compensation for all excavating, grading, placing borrow, base aggregate, shaping, and compacting, and for providing and placing topsoil or salvaged topsoil, fertilizer, and sod lawn at each curb ramp location.

Sidewalk removal, construction staking, curb ramp detectable warning field, and concrete sidewalk will be paid under respective contract bid items.

SER-602-001 (20170629)

45. Field Facilities Office Space, Item SPV.0060.xx.

A Description

This special provision describes furnishing, equipping, and maintaining a field office as required in the contract at engineer-approved locations conforming to standard spec 642 and as follows.

B Materials

Provide Field Facilities Office Space conforming to standard spec 642.2.1 except delete paragraphs (1), (7), and (9).

Replace standard spec 642.2.1(4) with the following:

Provide and maintain suitable interior sanitary facilities conforming to State and local health requirements, in clean and good working condition, and stock with sanitary supplies for the duration of the contract. Furnish office space in an existing office building or existing building converted to office space with a minimum of 1200 square feet. The facility shall have no fee parking with a minimum parking for 15 cars. The space shall include a meeting room with a minimum of 350 square feet. The exterior door(s) shall have locks in good working order and keys provided for all field staff. The office space shall be located within 2 miles of the construction project.

Equip the office as specified in standard spec 642.2.2.1 except delete paragraph (1) and (4) and add the following:

1. 5 suitable office desks with drawers and locks.
2. 5 ergonomically correct office chairs in working condition with at a minimum: 5-legged base with casters, seat adjustable from 15 to 22 inches from the floor with a seamless waterfall, rounded, front edge, and high backrest with no arms or adjustable arms.
3. 4 six foot folding tables.
4. 1 ten foot folding table.
5. 5 two-drawer file cabinets.
6. 3 four-shelf bookcases.
7. 20 folding chairs.

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, snow, and wind-driven debris. Provide regularly scheduled recycling and waste pick-up.

C Construction

Conform to standard spec 642.3 except delete paragraph (2).

D Measurement

The department will measure the Field Facilities Office Space as each office 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.XX	Field Facilities Office Space	EACH

Payment is full compensation for providing, equipping, securing, and maintaining the facility; for parking, for telecommunications equipment, installation, and service fees; and for providing bottled water, utilities, fuel, ventilation, and toilet facilities as required, either independently or jointly with the field laboratory, for the time specified in 642.3.

The department will pay for the cost of telecommunications usage fees incurred by department staff.

SER-642-002 (20160808)

46. Drainage Structure Cleaning, Item SPV.0060.XX.

A Description

This special provision describes cleaning storm sewer manholes and inlets that are not covered under other contract items.

B Materials

Furnish materials conforming to standard spec 519.

C Construction

Clean out all soils, debris, or other accumulated matter from all storm sewer manholes or inlets as indicated in the contract.

D Measurement

The department will measure Drainage Structure Cleaning 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
SPV.0060.XX	DRAINAGE STRUCTURE CLEANING	Each

Payment is full compensation for performing all work required under this bid item including disposal of any waste material from cleaning the structures.

47. Section Corner Monuments, Item SPV.0060.XX.

A Description

Coordinate with Southeastern Wisconsin Regional Planning Commission (SEWRPC) for the perpetuation and replacement of a section corner (Public Land Survey System- PLSS) monument.

B Materials

SEWRPC will provide a pre-cast concrete monument or brass disk to be used to mark the PLSS corner.

Furnish base aggregate dense materials that conform to standard spec 305. Furnish concrete, asphalt, topsoil or other materials depending on the surface surrounding the corner.

C Construction

SEWRPC will perpetuate existing section corner monument. The CONTRACTOR is responsible to coordinate with SEWRPC and the WisDOT Project Manager throughout the perpetuation and replacement process. The CONTRACTOR will contact the engineer and SEWRPC at (262) 953-4295 at least two (2) weeks before starting construction operations or the preconstruction meeting to allow for section corner monument perpetuation.

CONTRACTOR must excavate and completely remove the existing monument. CONTRACTOR is responsible for providing a backfilled 3 to 4 foot deep hole where existing monument was removed. CONTRACTOR is responsible to coordinate the materials and methodology to complete the construction of the surface surrounding the monument. This may include but is not limited to a 2’ x 2’ “box out” or 24” diameter core hole in concrete, asphalt pavement/paving rings, coring to facilitate poured in place monuments, topsoil, seed and mulching or other materials or methodologies as agreed to by the CONTRACTOR and SEWPRC.

Contact Information:

Attn: John Washburn
Southeastern Wisconsin Regional Planning Commission
W239 N1812 Rockwood Drive
P.O. Box 1607
Waukesha, WI 53187-1607
Phone (262) 547-6721
Cell (262) 953-4295
Fax (262) 547-1103
jwashburn@sewrpc.org

D Measurement

The department will measure Section Corner Monuments Special by the 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.XX	Section Corner Monuments	Each

Payment is full compensation for all excavating; removal of existing monument, for placing and compacting backfill material; for disposing of surplus materials; for concrete or asphalt material, finishing of roadway or other surfaces, for all coordination with SEWRPC.

SER-621-001 (20170530)

48. Temporary Bus Stop, Item SPV.0060.XX.

A Description

This special provision describes furnishing, maintaining, and removing temporary pavement and fence temporary for Temporary Bus Stop during construction conforming to 465 and 602 of the standard specs and as the plans show.

B Materials

Furnish asphaltic surface temporary in accordance to standard spec 465.2 (2) or furnish concrete in accordance to standard spec 602.2.

C Construction

Construct temporary bus stop that meets the requirements of the current Americans with Disabilities Act Accessibility Guidelines (ADAAG).

Form the foundation by excavating 2 inches for temporary asphalt or 3 inches for concrete. Tamp or compact the foundation to ensure stability.

Place two inches of Asphaltic Surface Temporary in accordance to standard spec 465.3.1 or place three inches of concrete in accordance to standard spec 602.3.2.3.

Connect temporary bus stop to crosswalks, existing sidewalks, or permanent sidewalks.

Temporary bus stop signs and poles will be furnished and installed by Type in the name of the Transit Company.

D Measurement

The department will measure Temporary Bus Stop 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.XX	Temporary Bus Stop	Each

Payment is full compensation for furnishing, installing, and maintaining all materials and for removing temporary pavement and temporary fence.

SER-602-002 (20180413)

49. Adjusting CUC Manhole Cover, Item SPV.0060.xx.

A Description

This special provision describes adjusting the existing chimney of the block, precast, or brick round manholes; furnishing, installing and removing protection of the cables in the manhole during adjustment operations. Perform work in accordance with the standard specifications, the provisions of the article Adjusting Manhole Covers, as shown on the plans, and as hereinafter specified.

B Materials

Furnish and install materials that conform to the requirements of section 519 of the standard specifications. Salvage and reinstall existing covers on the manholes. The city will supply covers designated for replacement. Contractor shall contact Ricardo Lopez, Inventory Clerk at (414) 286-6123 prior to obtaining the frames and lids from the DPW Field Headquarters at 3850 N. 35th St. Contractor must have the “Castings Requisitions Form” which shall be supplied by the City at the Preconstruction Meeting to obtain the covers.

C Construction

Report any pre-existing problems to Ms. Karen Rogney of City Underground Conduits Section at (414) 286-3243 three (3) working days in advance of any construction on manholes.

Before removing the pavement around the manhole, the contractor shall place a ¾-inch plywood cover or equal over existing active Street Lighting, Traffic Control, Communication or private vendor electrical cables. This cover shall be properly supported to/at the manhole floor.

Break out and remove pavement around manhole. Remove existing covers and store and secure them properly. Any damaged, lost, or stolen covers shall be the responsibility of the contractor and shall be replaced at contractor's expense.

Remove existing chimney to surface of concrete roof slab. If manhole does not have an existing concrete roof slab, remove sufficient chimney as to provide adequate corbel to fit new cast iron frame and cover.

Adjust manhole cover to proposed grade using bricks or concrete rings as necessary**. Completely underpin entire flange area of manhole frame with mortar, bricks and/or concrete rings.** Remove wedges/shims. Fill voids with grout. Do not back plaster inside walls.

After completion of paving, remove the temporary ¾-inch plywood cover or equal which is over the existing electrical cables in the manhole as mentioned above.

Notify Ms. Rogney three (3) working days in advance of completion of each manhole adjustment, for inspection and acceptance of work performed. The contractor will receive no payment until the above work is approved by City Underground Conduits.

D Measurement

The department will measure Adjusting CUC Manhole Cover by the Each 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.0060.400.	Adjusting CUC Manhole Cover	Each

Payment is full compensation for furnishing all required materials, exclusive of frames, grates, or lids available and designated for adjusting; for removing, reinstalling and adjusting the covers; and for furnishing all labor, tools, equipment and incidentals necessary for adjusting each cover, complete in accordance with the requirements of the plans and contract. Covers to be adjusted and which are rendered unfit for use by the contractor through the contractor's operations will be replaced by the contractor in kind at the contractor's own cost and expense.

50. Adjusting Water Boxes, Item SPV.0060.XX.

A Description

This special provision describes adjusting, protecting, and maintaining accessibility, for the duration of the paving project, to all City of Milwaukee water service boxes and water valve boxes located within the project limits.

B Materials

All material for the adjustment of these facilities shall meet City of Milwaukee specifications and will be provided by the City of Milwaukee by contacting Andray DeCordova, Milwaukee Water Works, at (414)708-3209 (or Dave Goldapp, Milwaukee Water Works at (414)286-6301).

If there is contractor damage, the materials must still be provided by the City of Milwaukee, however, in this case, the Contractor will be charged for all materials. Materials furnished by the City of Milwaukee and not used on the project shall be delivered back to DPW Field Headquarters – Infrastructure, Operations, Water Works at 3850 N. 35th St.

C Construction

The Contractor, or authorized project representative, shall contact Milwaukee Water Works prior to the start of construction. The City will locate, mark, inspect and repair all water service boxes and water valve boxes within the limits of the project prior to commencement of work on the project.

All water service boxes and water valve boxes within the project limits shall be adjusted to proposed elevations by the Contractor using materials meeting city specifications.

Throughout the duration of the project, the Contractor must ensure that all water service boxes and water valve boxes are adequately located and identified by blue paint, and that at all times, all water appurtenances remain accessible for operation by city forces. Exercise caution working adjacent to water facilities to avoid damage and ensure accessibility.

Upon completion of the contract, the City will inspect all water facilities to ensure the water boxes are clean, properly aligned, and accessible. The Contractor shall be responsible to make identified repairs and adjustments, and if any repairs or adjustments are made by the City, the cost will be charged to the Contractor.

D Measurement

The department will measure Adjusting Water Boxes 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.XX	Adjusting Water Boxes	Each

Payment is full compensation for all excavation, backfilling, disposal of surplus materials, water box adjustments, water box clean-out, and restoration of the work site; and for furnishing all labor, tools, equipment, and incidentals necessary to complete the work.

51. Masonry Pillar and Wall, Item SPV.0060.xxx

A Description

This special provision describes furnishing and constructing masonry pillars and walls.

B Materials

Furnish veneer to match existing pillars at Fire Station at southwest corner of the intersection of North Deerbrook Trail and West Brown Deer Road., from a department approved source substantially free of unconsolidated overburden materials, topsoil, organic materials, and other deleterious materials. Furnish one-piece solid limestone pillar cap and matching sectional limestone caps for walls. Furnish all other materials necessary to construct masonry pillars and walls.

A department approved source is a source with acceptable department test results for wear and soundness on record. The engineer may also approve a source the engineer judges to be sound, hard, durable, and of a suitable texture and composition.

The engineer may reject material from deteriorated or non-durable rock.

Material to be masonry veneer stone and limestone wall caps per plans.

C Construction

Excavate, construct footings, and build block masonry core walls to accept veneer stone where the plans show. Install masonry veneer with mortar joints, attachment tabs, and solid one-piece limestone pillar cap and wall caps.

D Measurement

The department will measure Masonry Pillar and Wall by each unit.

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.xxx	Masonry Pillar and Wall	EACH

Payment is full compensation for providing and installing Masonry Pillar and Wall.

52. Perennials, Geranium x cantabrigiense 'Karmina', CG, No.1, Item SPV.0060.xxx; Perennials, Panicum virgatum 'Heavy Metal', CG, No. 1, Item SPV.0060.xxx; Perennials, Nepeta x 'Kit Cat', CG, No. 1, Item SPV.0060.xxx;

Perennials, Schizachyrium scoparium, CG, No. 1, Item SPV.0060.xxx;
Perennials, Calamintha nepeta 'Montrose White', CG, No. 1, Item SPV.0060.xxx;
Perennials, Sporobulus heterolepsis, CG, No. 1, Item SPV.0060.xxx.

A Description

This special provision describes the furnishing and planting of perennial and ornamental grass plant materials according to the plans. Complete in place at the locations as designated on the plans, or as directed by the engineer conforming to standard spec 632 and as hereinafter provided.

B Materials

Per standard spec 632.1.

Mulch all plants with bark mulch according to the Bark Mulch Bid Item. Bark mulch will be paid under a separate bid item.

C Construction

Install plants as detailed and according with pertinent provisions of standard spec 632.

D Measurement

The department will measure Perennials as each individual plant, 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.xxx	Perennials, Geranium x cantabrigiense 'Karmina', CG, No.1	EACH
SPV.0060.xxx	Perennials, Panicum virgatum 'Heavy Metal', CG, No. 1,	EACH
SPV.0060.xxx	Perennials, Nepeta x 'Kit Cat', CG, No. 1	EACH
SPV.0060.xxx	Perennials, Schizachyrium scoparium, CG, No. 1	EACH
SPV.0060.xxx	Perennials, Calamintha nepeta 'Montrose White', CG, No. 1	EACH
SPV.0060.xxx	Perennials, Sporobulus heterolepsis, CG, No. 1	EACH

Payment is full compensation for providing, transporting, handling, storing, placing, and replacing plant materials; for excavating all plant holes, salvaging topsoil, mixing, and backfilling; for providing and applying all required fertilizer, water, herbicides, for disposing of all excess and waste materials.

The department will pay separately for landscape planting surveillance and care.

53. Remove, Stockpile, and Reinstall Municipal Monument Sign, Item SPV.0060.xxx.

A Description

This special provision describes removing, stockpiling, and reinstalling Municipal Monument Sign.

B Materials

Furnish breakaway post mountings for existing sign.

C Construction

Remove, coordinate storage of, transportation, and reinstall existing municipal monument sign.

D Measurement

The department will measure remove, stockpile, and reinstall municipal monument sign by each unit.

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.xxx	Remove, Stockpile, and Reinstall Municipal Monument Sign	EACH

Payment is full compensation for removing, stockpiling, and reinstalling Municipal Monument Sign.

54. Select Stone Material, Item SPV.0060.xxx.

A Description

This special provision describes providing and placing select stone material.

B Materials

Furnish multicolor, Wisconsin granite boulders, from a department approved source substantially free of unconsolidated overburden materials, topsoil, organic materials, and other deleterious materials.

A department approved source is a source with acceptable department test results for wear and soundness on record. The engineer may also approve a source the engineer judges to be sound, hard, durable, and of a suitable texture and composition.

The engineer may reject material from deteriorated or non-durable rock.

Material to be 3-foot x 3-foot x 4-foot for each boulder.

C Construction

Place select stone materials where the plans show or where the engineer directs.

D Measurement

The department will measure Select Stone Material by each unit.

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.xxx	Select Stone Material	EACH

Payment is full compensation for providing and installing select stone materials.

55. Artistic Panels, Item SPV.0060.xxx.

A Description

This special provision describes furnishing and constructing metal artistic panels and posts, including breakaway connections at grade to concrete footings.

B Materials

Furnish 5’-4” x 3’-1 ½” x ¼” corten steel artistic panels with waterjet cut graphics, mounted to aluminum posts, with concrete footings and breakaway mounting systems at locations per plans.

C Construction

Install concrete footings, breakaway connections, manufacture panels, transport to site and install as indicated on plans.

D Measurement

The department will measure Artistic Panels by each unit.

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.xxx	Artistic Panels	EACH

Payment is full compensation for providing and installing Artistic Panels.

56. Concrete Curb and Gutter 31-Inch, Item SPV.0090.###.

A Description

This special provision describes constructing concrete curb and gutter according to standard spec 601 and as shown on the plans.

B Materials

Furnish materials conforming to standard spec 601.2.

C Construction

Construct according to standard spec 601.3 and as shown on plans.

D Measurement

The department will measure Concrete Curb and Gutter 31-Inch by the linear foot 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.0090.###	Concrete Curb and Gutter 31-Inch	LF

Payment is full compensation for conforming to standard spec 601.5.

57. Concrete Curb Pedestrian 12-Inch, Item SPV.0090.###.

Construct the concrete curb according to standard spec 601 and according to the plan details.

58. Steel Edging Material, Item SPV.0090.xxx.

A Description

This special provision describes supplying providing steel edging separating planting areas from turf areas.

B Materials

Furnish 1/8” steel edging, 4-inches tall, flat black in color.

Furnish pins/stakes as necessary to stabilize edging.

C Construction

Install steel edging material where the plans show or where the engineer directs.

Install steel edging material so top of edging is ¼-inch above top of mulch height.

Install steel edging material with pins/stakes as necessary to anchor and stabilize edging.

D Measurement

The department will measure Steel Edging Material by linear foot in-place.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.xxx	Steel Edging Material	LF

Payment for steel edging material is full compensation for providing and installing steel edging material.

59. Compacted Gravel Leveling Course, Item SPV.0090.xxx.

A Description

This special provision describes placing compacted gravel leveling course for the 10” Snapped Limestone Wall Block.

B Materials

Furnish the compacted gravel leveling course that is in accordance to the pertinent requirements of section 209 of the standard specifications. Compacted Gravel Leveling Course will be 3/8” with fines limestone gravel, installed 8-inches thick, 2-feet wide, compacted as indicated on details.

C Construction

Place and compact gravel leveling course material as specified in section 205.3.2 of the standard specifications. The gravel leveling course shall be prepared by level-screening the gravel to proper height and compacting with a plate compactor. The gravel must be smooth and without low spots. Do not step in gravel.

D Measurement

The department will measure compacted gravel leveling course by the linear foot.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.xxx	Compacted Gravel Leveling Course	LF

Payment is full compensation for all the work required under this bid item.

60. Maintaining Temporary Drainage STA 377+34, Item SPV.0105.###.

A Description

This special provision describes maintaining drainage during construction operations at existing structure B-40-409 as shown on the plans and according to the pertinent requirements of the standard specifications and as hereinafter provided.

B Materials

Provide materials according to standard spec 520 and 628.

C Construction

Maintain drainage at and through worksite during construction according to standard spec 205, 520, and 628.

C.1 Design Requirements

It is the responsibility of the Contractor to submit a design for maintaining temporary drainage during construction with the Erosion Control Implementation Plan (ECIP) documentation for approval by the Department and the DNR.

An example of a potential method to maintain temporary drainage is provided in the plans. The contractor is not required to use this detail and shall be responsible for designing a temporary drainage system using the design criteria below. The contractor shall be responsible for determining sand bag placement, polyethylene sheeting, and pump size.

The design must withstand a 2-year storm event, using the design criteria shown in the plans.

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.

Pumping clean water from the upstream to the downstream, bypassing the worksite, as the sole means of maintaining drainage is permitted.

C.2 Dewatering

Do not allow any 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. Prior to each dewatering operation, submit to the department a separate ECIP amendment describing in words and pictorial format an appropriate best management practice for sediment removal, in accordance 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.

C.3 Dewatering (Mechanical Pumping) for Bypass Water (sediment-free) Operations

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

C.4 Dewatering (Mechanical Pumping) for treatment Water (sediment-laden) Operations

If dewatering operations require pumping of water containing sediments (sand, silt, and clay particles), the discharge will not be allowed to leave the work site or discharge to a storm water conveyance system without sediment removal treatment. During dewatering operations, sediment laden water shall be pumped into an adequate sediment basin, approved by the engineer, in an upland area prior to discharge into a wetland or waterway.

C.5 Dewatering / Bypass Pumping Backup Equipment

Provide an additional dewatering pump and generator to remain on site for use as a backup in case either the primary pump or generator is not in good working condition.

Provide the engineer with 24-hour contact information for an individual who is responsible for operating the pumps.

A representative of the contractor shall be at the construction site during rain events in order to monitor temporary drainage during rain events. Contact the engineer immediately if temporary drainage measures are damaged or are insufficient to handle the volume of water.

D Measurement

The department will measure Maintaining Temporary Drainage STA 377+34 as a single complete unit of work.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.###	Maintaining Temporary Drainage STA 377+34	LS

Payment is full compensation for any common excavation needed for temporary pipe installation; for all pumping and dewatering operations; for all materials including (but not limited to) temporary culvert pipes, cofferdams, piling steel sheet temporary, polyethylene sheeting, and rock bags; for placement, replacement, and any moving of materials; and for furnishing all labor, tools, equipment, materials and incidentals necessary to complete the contract work.

The table shown in the miscellaneous quantities section of the plan set is for information only and lists possible items and quantities needed to satisfy this special provision. Actual items and quantities used may vary. No contract modifications will be issued for this variation.

61. Construction Staking Sidewalk, Item SPV.0165. XX.

A Description

This special provision describes contractor-preformed construction staking to establish the horizontal and vertical position for sidewalk conforming to standard specs 105.6 and 650 and as follows.

B (Vacant)

C Construction

C.1 General

Use methods that conform to standard spec 650.3.

Maintain neat, orderly and complete survey notes and computations used in establishing the lines and grades. Make the survey notes and computations available to the engineer within 24 hours upon request as the work progresses.

C.2 Sidewalk

Place construction stakes for concrete sidewalk at intervals of 25 feet. A minimum of two stakes per cross section is required. Set and maintain as necessary additional stakes per cross section to achieve the required accuracy and to satisfy the method of operations. Set additional stakes as necessary to establish location and grade along intersecting road radii; and for auxiliary lanes. Locate all concrete sidewalk construction stakes to within 0.02 foot of the true horizontal position and establish the grade elevation to within 0.01 foot of the true vertical position.

D Measurement

The department will measure Construction Staking Sidewalk by the square foot 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.0165. XX	Construction Staking Sidewalk	SF

Payment is full compensation for locating and setting all construction stakes and for relocating and resetting damaged or missing construction stakes. Standard spec 650.5.(2) applies for final payment.

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62. 10-Inch Snapped Limestone Wall Block, Item SPV.0165.xxx.

A Description

This special provision describes hauling and installing 10” Snapped Limestone Wall Block at the locations and dimensions as shown in the plans.

B Materials

Furnish 10” Snapped Limestone Wall Block, from a department approved source substantially free of unconsolidated overburden materials, topsoil, organic materials, and other deleterious materials.

A department approved source is a source with acceptable department test results for wear and soundness on record. The engineer may also approve a source the engineer judges to be sound, hard, durable, and of a suitable texture and composition.

The engineer may reject material from deteriorated or non-durable rock.

C Construction

10” Snapped Limestone Wall Block will be placed on the prepared Compacted Gravel leveling Course at the locations and dimensions shown in the plans. Lay out 10” Snapped Limestone Wall Blocks in all areas so as to eliminate narrow blocks at edges. Blocks are to be dry stacked without mortar by hand with a natural edge. Select and install each block to prevent block from moving, minimize use of shims. Wall to be installed 6”-12” below grade and 24” above grade. Attach top course of wall block with adhesive formulated for use on natural stone.

D Measurement

The department will measure 10” Snapped Limestone Wall Stone per square foot 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.0165.xxx	10” Snapped Limestone Wall Block	SF

Payment is full compensation for all the work required under this bid item.

63. Joint And Crack Repair, Item SPV.0195.XX.

A Description

This special provision describes providing HMA for Joint and Crack Repair in existing pavement as the plans show and as follows.

B Materials

Furnish HMA pavement meeting the requirements for mixture LT or MT as specified in standard spec 465.2; except the engineer will not require the contractor to conform to the quality management program in 460.2.8. Furnish tack coat conforming to standard spec 455.2.5.

C Construction

Clean out all joints and cracks removing all loose and spalled concrete and all HMA patches. Dispose of all material off the project. Place asphaltic tack coat in the void. Fill voids with HMA pavement and machine compact.

D Measurement

The department will measure Joint and Crack Repair by the ton 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.0195.XX	Joint and Crack Repair	TON

Payment is full compensation for removing, cleaning, and properly disposing of all loose and spalled concrete and HMA patches; for providing and applying tack coat, and for providing, placing and compacting HMA pavement.

SER-460-001 (20170502)