

## Special Provisions

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**SPECIAL PROVISIONS**

**1. General.**

Perform the work under this construction contract for Project 1060-10-72, IH 94 East West Freeway, Moorland Interchange, IH 94, Waukesha 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, 2023 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 (20220628)

**2. Scope of Work.**

The work under this contract shall consist of removals, excavation, base aggregate dense, select crushed material, concrete base, HMA pavement, concrete curb & gutter, concrete sidewalk, concrete barrier, storm sewer, erosion control, restoration, traffic control, permanent signing, pavement marking, traffic signals, street lighting, ITS 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.**

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.

Attend weekly scheduling meetings to discuss near term schedule activities, address any long-term scheduling 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 including 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."

**Northern Long-eared Bat (*Myotis septentrionalis*)**

Northern long-eared bats (NLEB) have the potential to inhabit the project limits because they roost in trees, bridges and culverts. Tree clearing areas specified in plans are not considered suitable summer habitat for NLEB and no tree clearing restrictions apply to those locations. 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).

Tree clearing is limited to that which is specified in the plans. If additional trees with a 3-inch or greater diameter at breast height (dbh) need to be removed, no tree 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 or visual emergency 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.

### **Access During Construction**

Maintain access to properties along the project for local residents, businesses, and emergency vehicles. Access for all driveways shall remain open at all times except when paving at local resident driveways. Do not fully close commercial driveways without the approval of the property owner and the engineer. If a property owner agrees to fully close a driveway provide a minimum of 48 hours' notice of the driveway closure. Construct commercial driveways in halves or by closing one access at a time for properties that have multiple driveways. Restore private and commercial entrances to include a crushed aggregate surface within the same working day of entrance removal.

### **Work Restrictions**

During Stage 1 install storm sewer laterals across northbound Moorland Road (CTH O) during overnight hours using a single lane closure in addition to the single lane closure that is shown in the Stage 1 traffic control plans. Backfill the storm sewer trenches and install Base Patching Concrete SHES prior to reopening the roadway. The storm sewer laterals may be installed in stages over multiple nights to allow for one lane of traffic to be maintained on Moorland Road. Lane Rental Fee Assessment will be applied if northbound Moorland Road is not reopened to two through lanes by 6:00 AM.

During Stage 1 or Stage 2 install the traffic signal loops for the IH 94 WB exit ramp to NB Moorland Road under the northbound Moorland Road pavement during overnight hours using a single lane closure in addition to the single lane closure that is shown in the Stage 1 traffic control plans. Install Base Patching Concrete SHES prior to reopening the roadway. The traffic signal loops may be installed in stages over multiple nights to allow for one lane of traffic to be maintained on Moorland Road. Lane Rental Fee Assessment will be applied if northbound Moorland Road is not reopened to two through lanes by 6:00 AM.

During Stage 2 mill and overlay northbound Moorland Road as shown in the plans during overnight hours. Maintain one open lane on northbound Moorland Road at all times. Any pavement that is milled shall be overlaid with proposed asphalt prior to reopening the closed lane the next morning. Traffic shall not drive on a milled surface. The mill and overlay operation may occur over multiple nights to allow for one lane of traffic to be maintained on northbound Moorland Road. Lane Rental Fee Assessment will be applied if northbound Moorland Road is not reopened to two through lanes by 6:00 AM.

### **Work Zone Restrictions**

Accommodate pedestrians at all times. Maintain pedestrian access throughout the project as shown in the traffic control plan unless otherwise approved in writing by the engineer. The engineer shall not allow sidewalk or a curb ramp to be closed to pedestrians unless a temporary pedestrian access route is in place.

During Stage 1 construct the Moorland Road & Carpenter Road intersection by fully closing Carpenter Road to traffic. Residents needing to access the two driveways within the work zone shall access their driveway from the east along Carpenter Road.

During Stage 1 construct the Westmoor Country Club Access Road fully closed to traffic for a maximum of 1 calendar day. Provide Westmoor Country Club a minimum of 72 hours notice of the closure. Utilize flagging when possible to minimize the time when a full closure is in place. The access road may be open with traffic utilizing a base aggregate dense surface until paving. The length of the access road closure may be allowed to change if the contractor obtains permission for a longer closure in writing from Westmoor Country Club prior to closing the roadway. Provide the engineer with any written agreements with Westmoor Country Club prior to closing the roadway.

During Stage 1 construct the Westmoor Country Club driveway in halves open to traffic unless the contractor obtains written permission from Westmoor Country Club to fully close the driveway. Provide any written agreements to the engineer prior to fully closing the driveway.

### **Enhanced Final Liquidated Damages**

*Replace standard spec 108.11 paragraph (3) as follows:*

The department will assess \$4000.00 in daily liquidated damages. These liquidated damages reflect the cost of engineering, supervision, and a portion of road user costs.

## **Interim Liquidated Damages**

### Stage 1: 55 Calendar Days

At the beginning of Stage 1, close Ramp C to all traffic for a maximum of 55 calendar days. Do not reopen until completing the following work: grading, base aggregate dense, select crushed material, concrete base, HMA Pavement, concrete curb & gutter, concrete barrier, guardrail, storm sewer, street lighting, and temporary traffic signals.

If the contractor fails to complete the work necessary to reopen Ramp C to traffic within 55 calendar days the department will assess the contractor \$6,000.00 in interim liquidated damages for each calendar day the contract work remains incomplete beyond 55 calendar days. An entire calendar day will be charged for any period of time within a calendar day that the road remains closed beyond 12:01 AM.

## **Sequence of Operations**

### Stage 1

- Construct Ramp C
- Construct northbound Moorland right turn lane to IH 94 EB Ramp (Ramp D) and Carpenter Road intersection
- Construct curb ramps on west side of Moorland Road and work on median between Ramp E and Ramp F at night
- Install storm sewer laterals across northbound Moorland Road

### Stage 2

- Construct northbound Moorland Road to IH 94 WB Ramps (Ramp E)

## **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.

### **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:

- Moorland Road Southbound - \$500 per lane, per hour broken into 15-minute increments
- Moorland Road Northbound - \$3,000 per lane, per hour broken into 15-minute increments
- Moorland Road Northbound left turn to Ramp E - \$1,000 per lane, per hour broken into 15-minute increments
- Ramp E - \$1,000 per lane, per hour broken into 15-minute increments
- Ramp F - \$1,000 per lane, 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-108-065 (20161130)

## **5. Traffic.**

The work under this contract shall conform to the requirements of standard spec 643, the Wisconsin Manual on Uniform Traffic Control Devices (WMUTCD) and as herein provided.

Accomplish the construction sequence as detailed in the traffic control section of the plans as described herein.

Submit to the engineer for approval a detailed traffic control plan for any changes to the proposed traffic control plan shown in the plans. Submit the plan 14 days prior to the Pre-Construction Conference, or if after the Pre-Construction Conference 14 days prior to the intended use of the revised traffic control.

*Supplement standard spec 643.3.1 with the following:*

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

Yield to all through traffic at all locations. Equip all vehicles or equipment operating in the live traffic lanes with a hazard identification beam (flashing yellow signal light) that is visible from 360 degrees. Operate the flashing yellow beam only when merging or exiting live traffic lanes or when parked or operating on shoulders, except when parked behind barrier wall. Do not park personal vehicles within the access control limits of the freeway. Do not cross live traffic lanes of IH 94 or Moorland Road with equipment or vehicles.

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

Provide minimum 24 hour advance notification to the engineer for any LCS cancellations (not related to weather).

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

*Replace standard spec 643.3.1.(7) with the following:*

Provide equipment, forces, and materials to promptly restore any traffic control devices or pavement markings damaged or disturbed within 2 hours of being contacted.

SER-643-001 (20211227)

### **Work Restrictions**

Maintain three through lanes of traffic on westbound IH 94 at all times unless otherwise shown in the traffic control plans.

Maintain two through lanes of traffic on Moorland Road unless otherwise shown in the traffic control plans.

All ramps at the IH 94 & Moorland Road Interchange to remain open to traffic unless otherwise shown in the plans.

Maintain access to all business driveways unless otherwise shown to be closed in the Traffic Control Plans.

All work zone clear zones and drop offs shall be in accordance with standard spec 104.6.1.2.3.

Do not park or store materials within 8 feet of the traveled way or a turn lane open to traffic during non-work hours.

Do not place any items within 50-feet of the railroad right-of-way, including items that could foul the same area. Including but not limited to signing, equipment, or material. This includes at-grade crossings and structures with railroad under or over. If this is not adhered to Railroad Protective Liability Insurance will be required of the contractor and incidental to the contract.

### **Work Hour Definitions**

Northbound Moorland Road (CTH O), Northbound Moorland Road left turn lanes to Ramp E, Ramp D, Ramp E, and Ramp F

- Daytime Hours: 6:00 AM to 9:00 PM Monday, Tuesday, Wednesday, Thursday, Friday, Saturday, and Sunday.
- Overnight Hours: 9:00 PM to 6:00 AM Monday, Tuesday, Wednesday, Thursday, Friday, Saturday, and Sunday.

Southbound Moorland Road (CTH O):

- Peak Hours: 11:00 AM to 9:00 PM Monday, Tuesday, Wednesday, Thursday, Friday, Saturday, and Sunday.
- Off-Peak Hours: 9:00 PM to 11:00 AM Monday, Tuesday, Wednesday, Thursday, Friday, Saturday, and Sunday.

### **Schedule of Operations:**

#### Stage 1:

*Vehicles:*

- Maintain two through lanes on northbound Moorland Road and three lanes on SB Moorland Road unless otherwise shown on the traffic control plans
- Close Ramp C
- Close northbound Moorland Road and Carpenter Road intersection
- Close northbound Moorland Road left turn lane to Ramp E, Ramp E, and Ramp F to construct curb ramps and Ramp E median improvements

*Pedestrians:*

- Sidewalk along Moorland Road open at all times. Establish temporary pedestrian access route when curb ramps are under construction

#### Stage 2:

*Vehicles:*

- Maintain two through lanes on northbound and southbound Moorland Road unless otherwise shown on the traffic control plans
- Close inside lane of southbound Moorland Road during off-peak hours to construct northbound Moorland left turn lane to Ramp E
- Northbound Moorland Road left turn lane to Ramp E closed for duration of stage
- All ramps open to traffic
- Carpenter Road open to traffic

*Pedestrians:*

- Sidewalk along Moorland Road open at all times



## 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**

<b>Closure type with height, weight, or width restrictions (available width, all lanes in one direction &lt; 16 feet)</b>	<b>MINIMUM NOTIFICATION</b>
Lane and shoulder closures	7 calendar days
Full roadway closures	7 calendar days
Ramp closures	7 calendar days
Detours	7 calendar days
<b>Closure type without height, weight, or width restrictions (available width, all lanes in one direction ≥ 16 feet)</b>	<b>MINIMUM NOTIFICATION</b>
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. Municipality Acceptance of Sanitary Sewer and Water Main Construction.

Both the department and City of Brookfield 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 City of Brookfield.

stp-105-001 (20140630)

### 7. Referenced Construction Specifications.

Construct the work enumerated below conforming to the "Standard Specifications for Sewer and Water Construction in Wisconsin," 6th Edition. 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:

- Water Main Offset 12-Inch
- Adjust Sanitary Sewer Manhole
- Sanitary Manhole Seal

stp-105-002 (20130615)

### 8. 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 infested 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 (>104° 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)

## **9. Holiday and Special Event Work Restrictions.**

Do not perform work on, nor haul materials of any kind along or across any portion of the highway carrying IH 94 or Moorland Road (CTH O) 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 and special event periods:

- From noon Friday, June 30, 2023 to 6:00 AM Wednesday, July 5, 2023 for Independence Day;
- From noon Friday, September 1, 2023 to 6:00 AM Tuesday, September 5, 2023 for Labor Day.

stp-107-005 (20210113)

## **10. Utilities – Specials provided by WisDOT Utility Coordinator once all work plans approved.**

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

stp-107-065 (20080501)

## **11. Hauling Restrictions.**

Conduct operations in such a manner that does not impede the free flow of traffic on any roadway open to traffic. Do not haul on local roads without the approval of the appropriate jurisdiction.

## **12. Erosion Control.**

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

- (9) Erosion control best management practices (BMP's) the plans show are at suggested locations. The actual locations shall be determined by the contractor's ECIP and by the engineer. Include each dewatering (mechanical pumping) operation in the ECIP submittal. The ECIP shall supplement

information the plans show and not reproduce it. The ECIP shall identify how to implement the project's erosion control plan. ECIP shall demonstrate timely and diligently staged operations, continuing all construction operations methodically from the initial removals and topsoil stripping operations through the subsequent grading, paving, and re-application of top soil to minimize the exposure to possible erosion.

- (10) Provide the ECIP 14 days before the pre-construction conference. Provide 1 copy of the ECIP to the department and 1 copy of the ECIP to the WDNR Liaison Craig Webster, (262) 574-2141, [craig.webster@wisconsin.gov](mailto:craig.webster@wisconsin.gov). Do not implement the ECIP until department approval, and perform all work conforming to the approved ECIP.
- (11) Maintain Erosion Control BMP's until permanent vegetation is established or until the engineer determines that the BMP is no longer required.
- (12) Stockpile excess materials or spoils on upland areas away from wetlands, floodplains, and waterways. Install perimeter silt fence protection around stockpiles within a timeframe acceptable to the engineer. If stockpiled materials will be left for more than 14 days, install temporary seed and mulch or other temporary erosion control measures the engineer orders.
- (13) Re-apply topsoil on graded areas, as designated by the engineer, within a timeframe acceptable to the engineer after grading is completed within those areas. Seed, fertilize, and mulch/erosion mat top-soiled areas, as designated by the engineer, within 5 days after placement of topsoil. If graded areas are left not completed and exposed for more than 14 days, seed those areas with temporary seed and mulch.
- (14) Do not allow excavation for; structures, utilities, grading, maintaining drainage that requires dewatering (mechanical pumping) of water containing sediments (sand, silt, and clay particles) to leave the work site or discharge to a storm water conveyance system without sediment removal treatment. Before each dewatering operation, submit to the department a separate ECIP amendment describing in words and pictorial format an appropriate BMP for sediment removal, conforming to WisDNR Storm Water Construction Technical Standard, Code 1061, Dewatering. Include reasoning, location, and schedule duration proposed for each operation. Per Code 1061, include all selection criteria: site assessment, dewatering practice selection, calculations, plans, specifications, operations, maintenance, and location of proposed treated water discharge. Provide a stabilized discharge area. If directing discharge towards or into an inlet structure, provide additional inlet protection for back-up protection.
- (15) Dewatering is incidental.  
sef-107-010 (20180104)

### **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](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)

### **Saw Cut Slurry**

Saw cut slurry that may be generated as part of this contract shall be collected and actively managed. Prevent deposition of saw cut slurry into wetlands, drainage courses and onto private property. Management of saw cut slurry is incidental to construction and no separate payment will be made.

### **Concrete Washout Containment**

All concrete trucks shall wash out into a containment system located sufficiently away from the work area to prevent runoff into wetlands and drainage courses. The contractor shall provide a construction detail and location of the containment system with the ECIP and reviewed by the engineer prior to use. Concrete washout containment is incidental to construction and no separate payment will be made.

## **13. 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 Amanda Johansen ([amanda.johansen@dot.wis.gov](mailto:amanda.johansen@dot.wis.gov)) at (262) 521-4465. Post the permit in a conspicuous place at the construction site.

stp-107-056 (20180628)

## **14. Dust Control Implementation Plan.**

### **A Description**

This special provision describes developing, updating, and implementing a detailed Dust Control Implementation Plan (DCIP) for all land-disturbing construction activities and associated impacts both within the project site boundaries and outside the project site boundaries. Incorporate contract bid items that this article specifies into the DCIP.

### **B (Vacant)**

### **C Construction**

#### **C.1 General**

Control dust on the project as specified in standard spec 107.18. Minimize dust emissions resulting from land disturbing activities. Do not generate excessive air borne particulate matter (PM) or nuisance dust conditions. Control dust at all times during the contract.

Submit a DCIP to the engineer for review at least 14 calendar days before the preconstruction conference. Coordinate with the department, if requested, to resolve DCIP related issues before the preconstruction conference. The department will either approve the DCIP or request revisions. Do not initiate land-disturbing activities without the department's approval of the DCIP.

#### **C.2 DCIP Contents**

Develop a DCIP tailored to the specific needs of the project. Consider potential impacts to businesses and residences adjacent to the job site. Describe in detail all land disturbing, dust generating activities.

Identify strategies to prevent, mitigate, and collect excess dust. Establish clear lines of communication with the engineer to ensure that all dust control issues can be dealt with promptly.

Include all of the following:

1. A single contact person with overall responsibility for the DCIP development as well as surveillance and remediation of job related dust. Provide:
  - Name, firm, address, and working-hours phone number.
  - Non-working-hours phone number.
  - Email address.
2. A site map locating project features, the job site boundaries, all ingress and egress points, air intakes and other dust-sensitive areas, and all public and private paved surfaces within and adjacent to the job site. Show where specific land disturbing, dust generating activities will occur and, to the extent possible, where employing various dust control or prevention strategies.
3. A matrix, or plan, for each anticipated land disturbing, dust generating activity, showing the following:
  - Preventive measures that shall be employed.
  - The applicable contact person.
  - The contractor's timetable and surveillance measures used to determine when remediation is required.
  - The specific dust control and remediation measures that shall be employed. Identify the specific contract bid items that shall be used for payment. Indicate costs and practices that are incidental to the contract.
  - Both maintenance and cleanup schedules and procedures.
  - Excess and waste materials disposal strategy.
4. A description of monitoring and resolving off-site impacts.

### **C.3 Updating the DCIP**

Update the DCIP during the contract or as the engineer directs. Obtain the engineer's approval for all DCIP alterations. Also obtain the engineer's approval for routine DCIP adjustments for weather, job conditions, or emergencies that will have an impact on payment under the bid items listed in the approved DCIP.

### **C.4 Dust Control Deficiencies**

Coordinate with engineer to determine deadlines for resolving dust control deficiencies. Deficiencies include actions or lack of actions resulting in excessive dust, non-compliance with the contractor's DCIP or associated special provisions, and not properly maintaining equipment.

### **D Measurement**

The department will measure the various bid items associated with dust control as specified in the applicable measurement subsections of either the standard specs or other contract special provisions. The department will not measure work performed under a DCIP alteration unless the engineer specifically approves that alteration.

Measurement under the DCIP includes the contract bid items listed in this special provision:

- 623.0200 Dust Control Surface Treatment
- 624.0100 Water
- 628.7560 Tracking Pads

The department will measure work completed under other existing contract bid items if approved as a part of the DCIP. The department will consider new bid items to the contract if proposed under the DCIP. The department will not measure work required under the DCIP that is not included in contract bid items.

### **E Payment**

All costs associated with the development and updating of the DCIP are incidental to the contract. The department will pay separately for the work required to implement the actions approved in the DCIP under the contract bid items approved as a part of the DCIP. All other costs associated with work approved under the DCIP are incidental to the contract.

sef-107-005 (20170323)

## **15. Coordination with Businesses and Residents.**

The contractor shall prepare and distribute a newsletter mailed to all property owners, business owners, tenants, and other stakeholders in the project vicinity prior to the start of construction and at all major stage changes. The newsletter shall provide information about the project how traffic along the project corridor and access to businesses will be maintained, and a project schedule.

The department will create and maintain a project website.

## **16. Available Documents.**

The following documents are available for review:

- Geotechnical Investigation Report
- Pavement Type Selection Report
- Environmental Document
- Technical Infeasibility Report

Please contact Amanda Johansen, (262) 521-4465, [amanda.johansen@dot.wi.gov](mailto:amanda.johansen@dot.wi.gov), to obtain a copy of these documents.

## **17. Notice to Contractor, Asbestos Containing Materials on Structure.**

Paul M. Garvey, License Number All-117079, inspected Structures B-67-0052 and B-67-0053 for asbestos on 3/23/2022. Regulated Asbestos Containing Material (RACM) was found on this structure in the following locations and quantities: mercury vapor lights affixed to underside of bridge decks. 6 lighting units in total

A copy of the inspection report is available from Amanda Johansen, (262) 521-4465, [amanda.johansen@dot.wi.gov](mailto:amanda.johansen@dot.wi.gov). Locations of asbestos containing material are noted on the plan set. Do not disturb any asbestos containing material. Should asbestos containing material be disturbed, stop work immediately, notify the engineer, and the engineer will notify the department's Bureau of Technical Services at (608) 266-1476 for an emergency response as specified in standard spec 107.24. Keep material wet until it is abated.

stp-107-120 (20220628)

## **18. Notice to Contractor – Traffic Signal Bases.**

Traffic signal bases in close proximity to underground utilities may require hydro excavation to excavate for the traffic signal base. The cost of hydro excavation is incidental to the cost of the traffic signal base.

## **19. 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.

## **20. Notice to Contractor – Pavement Breaking Equipment.**

Do not use guillotine, drop hammer, falling weight, gravity impact breakers or equivalent equipment within 300 feet of any structure. A multi-head hydraulic hammer is allowed unless a structure is within 50 feet of the roadway.

SER-204-001 (20161123)

## **21. Removing Ramp Closure Gate, Item 204.9060.S.0001.**

### **A Description**

This special provision describes the removing ramp gate and power source as the plans show, conforming to standard spec 204, and as follows.

**B Materials**

All removed material shall become the property of the contractor and be disposed of off the project site.  
Properly recycle 12V DC deep cycle battery.

**C Construction**

Remove ramp gate, concrete base that ramp gate is mounted to, solar panel and pole, concrete base that solar panel pole is mounted to, pull box, and 12V power source in pull box.

**D Measurement**

The department will measure Removing Ramp Gate by the individual unit, acceptably completed.

**E Payment**

*Add the following to standard spec 204.5:*

ITEM NUMBER	DESCRIPTION	UNIT
204.9060.S.0001	Removing Ramp Gate	EACH

Payment is full compensation for removing the ramp gate, concrete base that ramp gate is mounted to, solar panel and pole, concrete base that solar panel is mounted to, pull box, and 12V DC deep cycle battery.

stp-204-025 (20150630)

**22. Removing Storm Sewer Chamber, Item 204.9060.S.0002.**

**A Description**

This special provision describes the removing an existing storm sewer chamber.

**B (Vacant)**

**C Construction**

Remove the chamber and dispose of all materials off of the project site.

**D Measurement**

The department will measure Removing Storm Sewer Chamber by the individual unit, acceptably completed.

**E Payment**

*Add the following to standard spec 204.5:*

ITEM NUMBER	DESCRIPTION	UNIT
204.9060.S.0002	Removing Storm Sewer Chamber	EACH

Payment is full compensation for removing the storm sewer chamber, and for disposing of all surplus materials.

stp-204-025 (20150630)

**23. Removing Lighting Units, Item 204.9060.S.1001.**

**A Description**

This special provision describes the removing lighting units as the plans show, conforming to standard spec 204, and as follows.

**B Materials**

All removed material shall become the property of the contractor and be disposed of off the project site, except for LED and HPS light fixtures and bulbs. LED and HPS light fixtures and bulbs are considered

hazardous material, disposal shall be done by the contractor utilizing STSP 659-5000.S Lamp, Ballast, LED, Switch Disposal by Contractor.

**C Construction**

Remove lighting units consisting of pole, arm, luminaire, lamp, wires, breakaway device, and associated hardware and appurtenances.

No removal work will be permitted without approval from the Engineer. Removal shall start as soon as the temporary lighting or permanent lighting, as applicable, is placed in approved operation. An inspection and approval by the Engineer will take place before any associated proposed permanent or temporary lighting is approved for operation.

**D Measurement**

The department will measure Removing Lighting Units by the individual unit, acceptably completed.

**E Payment**

*Add the following to standard spec 204.5:*

ITEM NUMBER	DESCRIPTION	UNIT
204.9060.S.1001	Removing Lighting Units	EACH
stp-204-025 (20150630)		

**24. Removing Distribution Center, Item 204.9060.S.1002.**

**A Description**

This special provision describes removing an existing highway lighting distribution center and electrical service pedestal as shown on the plans, in accordance to the pertinent provisions of standard spec 204, and as hereinafter provided.

**B (Vacant)**

**C Construction**

Remove the lighting distribution center and the electrical service pedestal and dispose off the project site.

The department will issue the demolition request to WE-Energies. Coordinate with the utility for disconnection of services. The department will pay any fees charged by the utility.

Removal of the concrete base will be paid under a separate bid item.

**D Measurement**

The department will measure Removing Distribution Center by the individual unit, acceptably completed.

**E Payment**

*Add the following to standard spec 204.5:*

ITEM NUMBER	DESCRIPTION	UNIT
204.9060.S.1002	Removing Distribution Center	EACH

Payment is full compensation for removing and disposing of luminaires, attached conduits, attached junction boxes, and hardware.

stp-204-025 (20150630)

**25. Removing Traffic Signals IH 94 WB On Ramp & CTH O (S Moorland Rd), Item 204.9060.S.3001.**

**A Description**

This special provision describes removing existing traffic signals at the intersection of IH 94 WB On Ramp & CTH O (S Moorland Rd) in accordance to the pertinent provisions of section 204 of the standard specifications and as hereinafter provided. Specific removal items are noted in the plans.

**B (Vacant)**



## C Construction

Arrange for the de-energizing of the traffic signals with the local electrical utility after receiving approval from the engineer that the existing traffic signals can be removed.

Notify the department's Electrical Field Unit at (414) 266-1170 at least five working days prior to the removal of the traffic signals. Complete the removal work as soon as possible following shut down of this equipment.

The Department assumes that all equipment is in good condition and in working order prior to the contractor's removal operation. Prior to removal, inspect and provide a list of any damaged or non-working traffic signal equipment to the engineer. Any equipment not identified as damaged or not working, prior to removal, will be replaced by the contractor at no cost to the department.

Remove all standards and poles per plan from their concrete footings and disassemble out of traffic. Remove the transformer bases from each pole. Remove the signal heads, emergency vehicle preemption heads (EVP), vehicle detection equipment, mast arms, luminaires, wiring/cabling, and traffic signal mounting devices from each signal standard, arm or pole. Ensure that all access hand hole doors and all associated hardware remain intact. Dispose of the underground signal cable, internal wires and street lighting cable off the state right of way. Deliver the remaining materials, except for Traffic signal LED and luminaire lamp, switch, and ballasts to the West Allis Electrical Service Facility at 935 South 60<sup>th</sup> Street, West Allis, Milwaukee County. Contact the department's Electrical Field Unit at (414) 266-1170 at least five working days prior to delivery to make arrangements. Traffic signal LED and luminaire lamp, switch, and ballast disposal shall be paid for as a separate item.

DOT forces shall remove the signal cabinet from the footing. The signal cabinet and associated signal cabinet equipment will be removed from the site by DOT forces and will remain the property of the department.

## D Measurement

The department will measure Removing Traffic Signals IH 94 WB On Ramp & CTH O as an individual unit for each intersection acceptably completed.

## E Payment

*Add the following to standard spec 204.5:*

ITEM NUMBER	DESCRIPTION	UNIT
204.9060.S.3001	Removing Traffic Signals IH 94 WB On Ramp & CTH O (S Moorland Rd)	EACH
stp-204-025 (20150630)		

## 26. Abandoning Sewer, Item 204.0291.S.

### A Description

This special provision describes abandoning existing sewer by filling it with cellular concrete as the plans show and conforming to standard spec 204 and standard spec 501 as modified in this special provision.

### B Materials

Provide cellular concrete meeting the following specifications: 1 part cement, 1 part fly ash, 8 parts sand, or an approved equal, and water. Provide cement meeting the requirements of standard spec 501.2.4.1 for Type 1 Portland Cement. Provide sand meeting the requirements of standard spec 501.2.7.2. Provide water meeting the requirements of standard spec 501.2.6.

### C Construction

Fill the abandoned sewer pipe with cellular concrete as the engineer directs. In the event that the sewer cannot be completely filled from existing manholes, tap the sewer where necessary and fill from these locations.

### D Measurement

The department will measure Abandoning Sewer in volume by the cubic yard as specified in standard spec 109.1.3.

### E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
204.0291.S	Abandoning Sewer	CY
Payment is full compensation for furnishing all materials and excavating and backfilling where necessary. stp-204-050 (20210708)		

## 27. QMP HMA Pavement Nuclear Density.

### A Description

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

- (1) This special provision describes density testing of in-place HMA pavement with the use of nuclear density gauges. Conform to standard spec 460 except as modified in this special provision.
- (2) Provide and maintain a quality control program defined as all activities and documentation of the following:
  1. Selection of test sites.
  2. Testing.
  3. Necessary adjustments in the process.
  4. Process control inspection.
- (3) Chapter 8 of the department's construction and materials manual (CMM) provides additional detailed guidance for QMP work and describes required procedures.  
<https://wisconsin.gov/rdwy/cmm/cm-08-00toc.pdf>
- (4) The department's Materials Reporting System (MRS) software allows contractors to submit data to the department electronically, estimate pay adjustments, and print selected reports. Qualified personnel may obtain MRS software from the department's web site at:

<http://www.atwoodsystems.com/>

### B Materials

#### B.1 Personnel

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

#### B.2 Testing

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

#### B.3 Equipment

##### B.3.1 General

- (1) Furnish nuclear gauges according to CMM 8-15.2.
- (2) Furnish nuclear gauges from the department's approved product list at

<https://wisconsin.gov/Pages/doing-bus/eng-consultants/cns/lt-rsrcs/tools/appr-prod/default.aspx>

##### B.3.2 Comparison of Nuclear Gauges

###### B.3.2.1 Comparison of QC and QV Nuclear Gauges

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

###### B.3.2.2 Comparison Monitoring

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

#### B.4 Quality Control Testing and Documentation

##### B.4.1 Lot and Sublot Requirements

###### B.4.1.1 Mainline Traffic Lanes, Shoulders, and Appurtenances

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

- (2) Determine required number of tests according to CMM 8-15.10.2.1.
- (3) Determine random testing locations according to CMM 8-15.10.3.

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

- (1) Divide the pavement into lots and sublots for nuclear density testing according to CMM 8-15.10.2.
- (2) Determine required number of tests according to CMM 8-15.10.2.2.
- (3) Determine random testing locations according to CMM 8-15.10.3.

#### **B.4.2 Pavement Density Determination**

##### **B.4.2.1 Mainline Traffic Lanes and Appurtenances**

- (1) Calculate the average subplot densities using the individual test results in each subplot.
- (2) If all subplot averages are no more than one percent below the target density, calculate the daily lot density by averaging the results of each random QC test taken on that day's material.
- (3) If any subplot average is more than one percent below the target density, do not include the individual test results from that subplot when computing the lot average density and remove that subplot's tonnage from the daily quantity for incentive. The tonnage from any such subplot is subject to disincentive pay as specified in standard spec 460.5.2.2.

##### **B.4.2.2 Mainline Shoulders**

###### **B.4.2.2.1 Width Greater Than 5 Feet**

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

###### **B.4.2.2.2 Width of 5 Feet or Less**

- (1) If all subplot test results are no more than 3.0 percent below the minimum target density, calculate the daily lot density by averaging all individual test results for the day.
- (2) If a subplot test result is more than 3.0 percent below the target density, the engineer may require the unacceptable material to be removed and replaced with acceptable material or allow the nonconforming material to remain in place with a 50 percent pay reduction. Determine the limits of the unacceptable material according to B.4.3.

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

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

##### **B.4.2.4 Documentation**

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

#### **B.4.3 Corrective Action**

- (1) Notify the engineer immediately when an individual test is more than 3.0 percent below the specified minimum in standard spec 460.3.3.1. Investigate and determine the cause of the unacceptable test result.
- (2) The engineer may require unacceptable material specified in B.4.3(1) to be removed and replaced with acceptable material or allow the nonconforming material to remain in place with a 50 percent pay reduction. Determine limits of the unacceptable area by measuring density of the layer at 50-foot increments both ahead and behind the point of unacceptable density and at the same offset as the original test site. Continue testing at 50-foot increments until a point of acceptable density is found as specified in standard spec 460.5.2.2(1). Removal and replacement of material may be required if extended testing is in a previously accepted subplot. Testing in a previously accepted subplot will not be used to recalculate a new lot density.
- (3) Compute unacceptable pavement area using the product of the longitudinal limits of the unacceptable density and the full subplot width within the traffic lanes or shoulders.
- (4) Retesting and acceptance of replaced pavement will be as specified in standard spec 105.3.
- (5) Tests indicating density more than 3.0 percent below the specified minimum, and further tests taken to determine the limits of unacceptable area, are excluded from the computations of the subplot and lot densities.

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

## **B.5 Department Testing**

### **B.5.1 Verification Testing**

- (1) The department will have a HTCP certified technician, or ACT working under a certified technician, perform verification testing. The department will test randomly at locations independent of the contractor's QC work. The department will perform verification testing at a minimum frequency of 10 percent of the sublots and a minimum of one subplot per mix design. The sublots selected will be within the active work zone. The contractor will supply the necessary traffic control for the department's testing activities.
- (2) The QV tester will test each selected subplot using the same testing requirements and frequencies as the QC tester.
- (3) If the verification subplot average is not more than one percent below the specified minimum target density, use the QC tests for acceptance.
- (4) If the verification subplot average is more than one percent below the specified target density, compare the QC and QV subplot averages. If the QV subplot average is within 1.0 lb/ft<sup>3</sup> of the QC subplot average, use the QC tests for acceptance.
- (5) If the first QV/QC subplot average comparison shows a difference of more than 1.0 lb/ft<sup>3</sup> each tester will perform an additional set of tests within that subplot. Combine the additional tests with the original set of tests to compute a new subplot average for each tester. If the new QV and QC subplot averages compare to within 1.0 lb/ft<sup>3</sup>, use the original QC tests for acceptance.
- (6) If the QV and QC subplot averages differ by more than 1.0 lb/ft<sup>3</sup> after a second set of tests, resolve the difference with dispute resolution specified in B.6. The engineer will notify the contractor immediately when density deficiencies or testing precision exceeding the allowable differences are observed.

### **B.5.2 Independent Assurance Testing**

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

## **B.6 Dispute Resolution**

- (1) The testers may perform investigation in the work zone by analyzing the testing, calculation, and documentation procedures. The testers may perform gauge comparison according to B.3.2.1.
- (2) The testers may use comparison monitoring according to B.3.2.2 to determine if one of the gauges is out of tolerance. If a gauge is found to be out of tolerance with its reference value, remove the gauge from the project and use the other gauge's test results for acceptance.
- (3) If the testing discrepancy cannot be identified, the contractor may elect to accept the QV subplot density test results or retesting of the subplot in dispute within 48 hours of paving. Traffic control costs will be split between the department and the contractor.
- (4) If investigation finds that both gauges are in error, the contractor and engineer will reach a decision on resolution through mutual agreement.

## **B.7 Acceptance**

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

## **C (Vacant)**

## **D (Vacant)**

## **E Payment**

### **E.1 QMP Testing**

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

## **E.2 Disincentive for HMA Pavement Density**

- (1) The department will administer density disincentives as specified in standard spec 460.5.2.2.

## **E.3 Incentive for HMA Pavement Density**

- (1) The department will administer density incentives as specified in standard spec 460.5.2.3.  
stp-460-020 (20181119)

## **28. Insulation Board Polystyrene, 2-Inch, Item 612.0902.S.5001**

### **A Description**

This special provision describes furnishing and placing polystyrene insulation board as the plans show.

### **B Materials**

Provide polystyrene insulation board that conforms to the requirements for Extruded Insulation Board, AASHTO Designation M230 as modified in this special provision.

Delete flammability requirement.

### **B.1 Certification**

Before installation, obtain from the manufacturer a certification indicating compliance and furnish it to the project engineer.

### **C Construction**

Insulation shall be used where a water main and/or water service crosses a storm sewer. Insulation shall be installed at locations shown on the plans and as directed by the engineer according to the Standard Specifications for Sewer and Water Construction in Wisconsin, 6th Edition and all amendments, File No. 48.

Insulation dimensions shall be 4 ft x 8 ft and installed in two layers for a total thickness of 4-inches. Joints between such layers shall be staggered.

### **D Measurement**

The department will measure Insulation Board Polystyrene, 2-Inch by area in square yards of work, completed and accepted.

### **E Payment**

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

ITEM NUMBER	DESCRIPTION	UNIT
612.0902.S.5001	Insulation Board Polystyrene, 2-Inch	SY

Payment is full compensation for all excavation; and for furnishing and placing the insulation board.

stp-612-005 (20030820)

## **29. Fence Safety, Item 616.0700.S.**

### **A Description**

This special provision describes providing plastic fence at locations the plans show.

### **B Materials**

Furnish notched conventional metal "T" or "U" shaped fence posts.

Furnish fence fabric meeting the following requirements.

**Color:** International orange (UV stabilized)  
**Roll Height:** 4 feet  
**Mesh Opening:** 1 inch min to 3 inch max  
**Resin/Construction:** High density polyethylene mesh  
**Tensile Yield:** Avg. 2000 lb per 4 ft. width (ASTM D638)  
**Ultimate Tensile Strength:** Avg. 3000 lb per 4 ft. width (ASTM D638)  
**Elongation at Break (%):** Greater than 100% (ASTM D638)  
**Chemical Resistance:** Inert to most chemicals and acids

### C Construction

Drive posts into the ground 12 to 18 inches. Space posts at 7 feet.

Use a minimum of three wire ties to secure the fence at each post. Weave tension wire through the top row of strands to provide a top stringer that prevents sagging.

Overlap two rolls at a post and secure with wire ties.

### D Measurement

The department will measure Fence Safety by the linear foot along the base of the fence, center-to-center of posts, 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
616.0700.S	Fence Safety	LF

Payment is full compensation for furnishing and installing fence and posts; maintaining the fence and posts in satisfactory condition; and for removing and disposing of fence and posts at project completion.

stp-616-030 (20160607)

## 30. 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)

### **31. Blue Specific Service Signs.**

*Add the following to standard spec 638.3.4:*

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

The contractor is responsible for damage done to these signs due to contractor operations.

stp-638-010 (20150630)

### **32. Sign Bridge Identification Plaques.**

Supplement standard spec 641.5 with the following:

- (5) Payment for Sign Bridge and Overhead Sign Support bid items is full compensation for providing and installing sign bridge identification plaques and mounting hardware as shown on the standard detail drawing in the plans for each existing and new sign bridge or overhead sign support.

SER-641-001 (20160902)

### **33. Traffic Control Meetings and Traffic Control Scheduling.**

Every Wednesday by 10:00 AM, submit a detailed proposed 2-week look-ahead traffic closure schedule to the engineer. Type the detailed proposed 2-week look-ahead closure schedule into an excel spreadsheet provided by the engineer. Enter information such as closure dates, duration, work causing the closure and detours to be used. Also enter information such as ongoing long-term closures, emergency contacts and general 2-month look-ahead closure information into the excel spreadsheet.

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

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

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

sef-643-040 (20150319)

### **34. 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)

### **35. General Requirements for Electrical Work.**

#### **General**

*Add the following to standard specification sections 651, 652, 653, 654, 655, 656, 657 and 659.*

All the work necessary to comply with revisions to standard specifications mentioned herewith shall be incidental to associated pay items or to the project including coordination, materials, and labor. No additional payment shall be made to the contractor.

*Add the following to standard specification subsection 651.2:*

#### **Wisconsin Department of Transportation**

Materials indicated to be returned to the Department shall be hauled to one of the following two locations:

1. State Electrical Shop at 935 South 60th street, West Allis, as directed by Ms. Bree Johns-Konkol, tel. (414) 266-1170.
2. Milwaukee County Grounds, 10191 West Watertown Plank Road, Wauwatosa, as directed by Mr. Pat Stoetzel, tel. (414) 750-5306.

Arrange pickups and deliveries 3 days in advance and during regular business hours (Monday – Thursday 7:00 AM to 3:45 PM).

*Add the following to standard specification subsection 651.3.1:*

Any circuit that the contractor does not personally tag out at the disconnect shall be considered live and will be subject to being activated by another person with no notice to the contractor. Make tag-outs with manufactured tags and endorse them with the date and the name of the contractor. Clear tag-outs at the end of the workday. The department does not employ a load dispatcher and has no intent to do so. Each electrical worker is responsible for their own protection from automatic switching and from switching by others.

The plans show required disconnections of existing lighting circuits, most in the form of abandoning existing underground conductors in place. The contractor may need to mobilize several times per each existing lighting distribution center. The contractor is expected to build these costs into the various paid items for removals and installations.

*Replace section 651.3.3 (3) of the standard specifications with the following:*

(3) Request a signal inspection of the signal installation to the project engineer after completing the Prerequisites for Underground Inspection checklist or Prerequisites for Above Ground Inspection checklist at least five working days prior to the time of the requested inspection. Notify the department's Electrical Field Unit at (414) 266-1170 to coordinate the inspection. The department's Region Electrical personnel will perform the inspection. In the event of deficiencies, request a re-inspection when the work is corrected. The engineer will not authorize continuation to aboveground work or turn-on until the contractor corrects all deficiencies.

*Add the following to standard specification subsection 651.5:*

Work to disconnect and connect conductors will be incidental to the paid measurement of footage.

There will be no measurement for payment for abandoning conductors or removing conductors for scrap.

Work to disconnect and connect electrical system, splice through, or to connect conductors are incidental to the installation or removal of the freeway lighting pay items included in this contract. The department will not measure conductors or conduits that have been abandoned in place or removed for scrap. The department will allow, at the contractor's discretion, for the salvaging of conductors to be abandoned, if possible.

*Add the following to standard specification subsection 652.3.1.4:*

Support conductors at the top of the vertical raceway or as close as practical if the vertical rise exceeds 40-feet. Provide additional supports as shown; in no case shall the distance between supports exceed that shown in Table 300.19(A) of the Wisconsin State Electric Code.

*Add the following to standard specification subsection 653.3(1):*

This provision modifies the standard detail drawing for pull boxes and thereby both the standard items and SPV pay item for pull boxes. Lighting pull box covers shall read "LIGHTING".

*Add the following to standard specification subsection 655.3.1:*

Wet location splices are not anticipated on this project and not shown in the plans. In the event that the engineer allows wet location splices, make pull box splices with engineer approved epoxy kit for the freeway lighting and should be incidental to the installation of pull box.

At each pull point or access point, indicate the line side bundle with a lap of blue tape. Mark conductors in poles and in pull boxes or other terminations with a 6-Inch-long blue tape wrap to identify the set of conductors emanating from distribution center (feeder).

*Add the following to standard specification subsection 655.3.7(4):*

Where two or more wire networks pass through a pull point, tag each circuit network (i.e. A/B/N and C/D/N) with approved all-weather tags.

*Add the following to standard specification subsection 657.2:*

Non-breakaway poles (mounted on structures, concrete bases or behind noise wall barriers without transformer base), as well as at stems of sign bridges containing electrical wires are to be double nipped and install galvanized rat screen enclosing the bottom of pole area; extra nuts and screen incidental.

*Add the following to standard specification subsections 657.3.1 and 657.3.5:*

Corrosion protection measures described in subsections 657.3.1 and 657.3.5 of the standard specifications are invoked for breakaway transformer bases and aluminum light poles. Avoid contact of dissimilar metals in erecting the pole on its foundation and/or breakaway device. Resolve any concern of trapped moisture or potential corrosion cell to the satisfaction of the engineer.

**Manufacturer's Warranty for LED luminaires:** The manufacturer shall warrant to the department that each complete luminaire (consisting of the housing, optical assembly, LED drivers, surge protection and wiring) will be free from defects in material and workmanship for ten (10) years from the date that the luminaire are put into service. Install luminaires within one year of manufacture.

If any luminaires fail to meet the above warranty, the department shall provide the manufacturer with a written notice of any defect within thirty (30) days after discovery of the defect. The manufacturer shall provide all materials, luminaires, replacement component parts, labor, and all incidentals necessary to restore the luminaire to a fully operational, installed condition.

**Submittal Requirements for LED luminaires:** Considering the rapid advancement in LED technology, the overall project construction and duration of construction, within 10 calendar days after contract execution, the contractor is responsible to coordinate the lead time for LED luminaires purchase and installation schedule with the engineer and the Tom Grisa, City of Brookfield Director of Public Works at (262) 787-3919 or [grisa@ci.brookfield.wi.us](mailto:grisa@ci.brookfield.wi.us) for the City lighting system prior to order LED luminaires. The LED luminaires purchasing may be done during later stage of construction as directed by the department which shall not delay the construction.

*Add the following to standard specification 659.3.1:*

Contractor shall be responsible to maintain adequate lighting during all the construction stages not shown on the temporary lighting plans, but which are necessitated by field conditions or by any construction phasing changes. Contractor shall coordinate with WE Energies and City of Brookfield for the existing poles with luminaires to remain in place until new lighting is installed and operational. Installation of temporary lighting not shown on lighting plans shall be incidental in this contract. Contractor shall be

responsible to submit a redline markup plans for any additional temporary lighting to the Engineer for approval prior to installation.

**36. Electrical Conduit.**

*Replace section 652 5(2) of the standard specifications with the following:*

(2) Payment for Conduit Rigid Metallic, Conduit Rigid Nonmetallic, Conduit Reinforced Thermosetting Resin, and Conduit Special bid items is full compensation for providing the conduit, conduit bodies, and fittings; for providing all conduit hangers, clips, attachments, and fittings used to support conduit on structures; for pull wires or ropes; for expansion fittings and caps; for making necessary connections into existing pull boxes; for excavating, bedding, and backfilling, including any sand, concrete, or other required materials; for disposing of surplus materials; and for making inspections.

*Replace section 652.5(5) of the standard specifications with the following:*

(5) Payment for Conduit Loop Detector is full compensation for providing all materials, including conduit, compacted backfill, surface sealer if required, pull wire if required, condulets, conduit fittings, and for making necessary connections into existing pull boxes.

**37. Concrete Control Cabinet Bases Type 9 Special, Item 654.0217.**

*Add the following to standard specification 654.3:*

(3) Construct the concrete cabinet base according to the construction detail provided in the project plans.

**38. Electrical Service Meter Breaker Pedestal, Item 656.0200.3001.**

*Add the following to standard specification 656.2.3:*

The department will be responsible for the electric service installation request for any department maintained facility.

Electric utility company service installation and energy cost will be billed to and paid for by the maintaining authority.

*Add the following to standard specification 656.3.4:*

Install the cabinet base and meter breaker pedestal first, so the electric utility company can install the service lateral. Finish grade the service trench, replace topsoil that is lost or contaminated with other materials, fertilize, seed, and mulch all areas that are disturbed by the electric utility company.

*Add the following to standard specification 656.5(3):*

Payment for grading the service trench, replacing topsoil, fertilizer, seed, and mulch will be incidental to this work unless the bid items are in the contract and then they will be paid for at the contract price.

**39. Traffic Signals, General.**

All work shall be in accordance to the plans and the State of Wisconsin Department of Transportation Standard Specifications for Highway and Structure Construction, 2023 Edition, and these special provisions.

**Note that failure to comply with the state standards and specifications may result in the cost of the corrections to be made at the Contractor's expense. Also, any additional disruption of Department-owned facilities shall be repaired or relocated as needed at the Contractors expense.**

Notify the department's Electrical Field Unit (EFU) at (414) 266-1170 at least three weeks prior to the beginning of the traffic signal work.

Furnish the engineer with material lists and specifications of all traffic control equipment for approval prior to installation.

#### **40. Traffic Signal Faces.**

*Add the following to standard specification 658.3:*

<sup>(5)</sup> Connect all ungrounded conductors with wire nuts in the appropriate sections of the signal heads. Connect the neutral conductors to the terminal strip. Be certain to twist wires prior to installing the wire nuts. All wire nuts must be installed facing up to prevent the entrance of water.

#### **41. Pedestrian Signal Faces 16-Inch, Item 658.0416.**

*Replace 658.2(4) of the standard specifications with the following:*

For pedestrian signal faces: furnish polycarbonate resin housings, doors, and visors. Use yellow, Federal Standard 595 – FS13538, housings and dull black door faces and visors. For 16-inch heads, mount a z-crate visor and gasket to the door with stainless steel tabs. Drill the housing for top and bottom pipe mounting with the ability to rotate 270 degrees on the poly mounting brackets.

#### **42. Pedestrian Push Buttons, Item 658.0500.**

*Replace 658.2(5) of the standard specifications with the following:*

For pedestrian push buttons: furnish freeze-proof ADA compliant pedestrian push buttons made by a department-approved manufacturer. The contractor shall place a Size 1, Type H reflective (R10-3EL, R, D) sign sticker (per state sign plate), message series – B, directly above each push button. Include a directional arrow or arrows on the sign as the plans show.

#### **43. Lamp, Ballast, LED, Switch Disposal by Contractor, Item 659.5000.S.**

##### **A Description**

This special provision describes the packaging of lamps, ballasts, LEDs, and mercury containing switches (e.g overhead roadway lighting, underdeck bridge, wall packs, pedestrian signals, traffic control stop lights and warning flashers, fluorescent bulbs, and thermostats) removed under this contract for disposal as hazardous materials.

For Lamp, Ballast, LED, Switch Disposal by Contractor, coordinate removal by the department's hazardous waste disposal vendor.

##### **B Materials**

Items removed under this contract will be considered the property of the department for waste generator identification. The contractor is responsible for coordinating with the department's hazardous waste vendor for disposal:

<https://wisconsin.gov/Documents/doing-business/eng-consultants/cnslt-rsrcs/environment/hazwaste-contacts.pdf>

##### **C Construction**

Provide a secure, level location removed from the travelled way for storage of the material for disposal.

Pack intact fixtures in the packaging of the new lamps used to replace them, or packaging affording the equivalent protection. Place in full, closed stackable cartons.

Pile cartons no more than four high if palletized and secure cartons with shrink wrap to prevent shifting or falling of the loads. Clearly mark each pallet with the words "Universal Waste Lamps" or "Universal Waste Ballasts", the date, and the number of fixtures on each pallet.

Pack broken fixtures into (min.) 6 mil thick plastic bags and place inside sturdy cardboard boxes or the equivalent. Mark the outer packaging with the term "Broken Fixtures/Lamps", the date and the number of broken fixtures clearly marked on the box.

The hazardous waste vendor will not accept fixtures improperly packaged. The vendor will reject any fixtures not removed as part of a contract pay item or otherwise required under this contract.

Pack ballasts and mercury containing switches in appropriate containers.

Complete the lamp and ballast inventory (<https://wisconsindot.gov/Documents/doing-bus/eng-consultants/cnslt-rsrcs/environment/dotlampballastinventory.dotx>) and contact the hazardous waste vendor to coordinate pickup and disposal at a location specified by the contractor. Consolidate all pallets and boxes from one project at a single location. Contact the hazardous waste vendor to set up an appointment for pickup. The hazardous waste vendor requires a minimum of one week advance notice to schedule pickup.

#### **D Measurement**

The department will measure Lamp, Ballast, LED, Switch Disposal by Contractor as each individual unit received by the hazardous waste vendor, properly packaged and acceptably completed, matching the total number of units provided on the inventory form. The department will not measure broken fixtures that exceed a total of ten percent of all fixtures to be disposed.

#### **E Payment**

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

ITEM NUMBER	DESCRIPTION	UNIT
659.5000.S	Lamp, Ballast, LED, Switch Disposal by Contractor	EACH

Payment for Lamp, Ballast, LED, Switch Disposal by Contractor is full compensation for handling, packaging, labeling and scheduling disposal with the hazardous waste vendor.

The department will pay separately for the work under which the lamps, ballasts LED or Switches are removed from service.

stp-659-500 (20220107)

#### **44. Temporary Traffic Signals for Intersections, Item 661.0201.**

*Replace 661.2.1(1) of the standard specifications with the following:*

(1) Furnish control cabinet and control equipment. The Department will supply, maintain, and install a signal controller, cellular modem, and ethernet switch to establish remote communication to the signal controller. The cabinet must be equipped with a 6-circuit Isotel independent of the GFI receptacles. Provide a cabinet with a Corbin #2 door lock and an access door that allows placing the controller in emergency flash. Provide keys to the access door to the engineer and law enforcement agencies as required. Also provide a manual control accessible by the police. Test traffic signal control cabinets before installation. The Department will provide the signal controller with the initial traffic signal timing, and the Department will be responsible for all subsequent signal timing changes.

*Replace 661.2.1(3) of the standard specifications with the following:*

(3) Use existing underground electric service and meter breaker pedestal for the operation of the Temporary Traffic Signal. The contractor will be responsible for arranging any additional service connection to the temporary signal. The department will pay for all Energy Costs for the operation of the Temporary Traffic Signal.

Furnish and install a generator to operate the temporary traffic signals for the times required to switch the existing permanent traffic signal over to the temporary traffic signal and for the time required to switch the temporary traffic signal back over to the permanent traffic signal.

Contact the local electrical utility at least four days prior to making the switch from the Temporary Traffic Signal to the new Permanent Traffic Signal.

*Append 661.2.1 of the standard specifications with the following:*

(6) Control equipment or controller equipment is defined as anything inside the control cabinet excluding the department furnished signal controller, cellular modem, and ethernet switch.

*Replace 661.3.1(2) of the standard specifications with the following:*

(2) Request a signal inspection of the completed temporary traffic signal installation to the engineer at least five working days prior to the time of the requested inspection. Notify the SE Region Electrical Field Unit at (414) 266-1170 to coordinate the inspection. The SE Region electrical personnel will perform the inspection.

*Append 661.3.1.4 of the standard specifications with the following:*

(4) Arrange for every other week inspections with the engineer to check the height of the span wire above the roadways to ensure that the bottom of the traffic signal heads remain within the minimum and maximum heights allowed above the roadway. Make all height adjustments within 1-hour of an inspection indicating that adjustments are required. Notify the engineer in writing upon completion of all necessary adjustments. Maintain a written log to properly document the date of each every other week inspection, the heights above the roadway, the roadway clearance after adjustments have been made, and acceptance by the engineer. Provide all documentation related to the every other week span wire height checks as well as all records related to maintenance performed on the temporary traffic signal installations to the engineer.

*Replace 661.3.2.6(2) of the standard specifications with the following:*

(2) Upon acceptance of new signal and completion of work, the department will switch control of the intersection over to the permanent cabinet installation. Remove signal cable and wires, wood poles, wood posts, control cabinet, control equipment, and incidental materials. Upon deactivation of the controller, call the electrical utility immediately for the temporary electrical service disconnect. The department shall remove the signal controller, cellular modem, and ethernet switch.

*Append 661.3.2.6 of the standard specifications with the following:*

(6) Remove the CCTV camera, hardware, mounting brackets and cabling from the temporary traffic signal installation and return it to the department.

Replace 661.3.2.7 (2) of the standard specifications with the following:

(2) Respond within one hour of notification to provide corrective action to any emergency such as but not limited to knockdowns, signal cable problems, and controller equipment failures. If equipment becomes damaged or faulty beyond repair, replace it within one working day. In order to fulfill this requirement, maintain, in stock, sufficient materials and equipment to provide repairs. Replace the traffic signal control equipment including the cabinet and cabinet accessories within 4 hours. If the outcome of the response identifies damage to the department furnished signal controller, notify the Traffic Management Center at (800) 375-7302 who will then dispatch the SE Region Electrical Field Unit

*Replace 661.5(2) of the standard specifications with the following:*

(2) Payment for the Temporary Traffic Signals for Intersections bid item is full compensation for providing, maintaining, and repairing the complete temporary installation; and for removal. Payment also includes the following:

1. Furnishing and installing replacement equipment.
2. The cost of delivery and pick-up of the cabinet assemblies.

Payment is full compensation for drilling holes; furnishing and installing all materials, including bricks, and coarse aggregate; for excavation, bedding, and backfilling, including any sand or other required materials; furnishing and placing topsoil, fertilizer, seed, and mulch in disturbed areas; for properly disposing of surplus materials; for making inspections; for cleaning up and properly disposing of waste; for removing and delivering the CCTV camera, hardware, mounting brackets and cabling from the temporary traffic signal installation to the department; and for furnishing all labor, tools, equipment, and incidentals necessary to complete the work.

## **45. Ramp Closure Gates 40-FT, Item 662.1040.S.**

### **A Description**

This special provision describes providing freeway on-ramp closure gates on type 5 steel luminaire poles.

### **B Materials**

#### **B.1 General**

Provide five user manuals and a listing of vendors and contact information for each manufactured component including flasher electrical components.

The engineer may allow alternates equal to specified manufactured components. The engineer may require plan detail modifications to accommodate alternates. The engineer may accept alternate arms or

mounting adaptors only if the contractor can demonstrate that the department can easily remove and replace the arms.

## **B.2 Components**

Furnish type 5 steel poles designed to carry twin 15-foot luminaire arms and conforming to standard spec 657 and with dimensions for acceptable installation of the ramp gate hardware as shown on the detail. Ensure a contiguous pole by eliminating the hand hole near base of pole, thus allowing uninhibited mounting of the gate pivot assembly.

Furnish galvanized steel nuts and bolts conforming to ASTM A307 except where designated as high strength (HS), conform to ASTM F3125. For the ramp closure gate locking mechanism, furnish a 3/4-inch handle nut.

Furnish grade A36 steel for the gate supports, gate pivot assembly, and associated hardware galvanized after fabrication by either a mechanical or hot-dip process. Grind welded connections, rough edges, and burrs smooth before galvanizing to ensure a finished appearance. Ensure that the galvanized coating conforms to ASTM A 153.

Provide aluminum/fiberglass gate arms of the nominal length the bid item indicates and conforming to plan dimensions. Cover gate arms on two sides with alternating red and white shop-applied type H reflective from the department's approved products list. Also provide a shear pin base that is the manufacturer's "permanent pivot" style. Obtain components from:

B&B Roadway  
15191 Hwy 243  
Russellville, AL 35654  
Tel: (888) 560-2060  
Gate arm: Model MU605

Furnish a worm gear winch with a single line vertical lift capacity of 2000 lbs. Ensure that the winch has hardened steel gears, a handgrip, permanently lubricated bearings, a reinforced arc-welded reel assembly, and mounting plate. Ensure that the winch can be mounted to the winch mount plate shown on the construction details and the handgrip can be operated without conflict with the pole or ramp gate assembly. Furnish a 2-inch outdoor rated, rot resistant polyester strap for the connection between the worm gear winch and the gate arm pivot assembly.

## **C Construction**

Provide ramp closure gate at the locations the plans show. Apply marine grade anti seize compound compound to all bolt threads and to the interface between the aluminum base and steel pole. The engineer may direct adjustment of the gate arm assembly to ensure the correct vertical and angular orientation of the completed closure gate.

Install structure identification plaques in the location the plan details show.

## **D Measurement**

The department will measure the Ramp Closure Gates bid items as each individual installation, 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
662.1040.S	Ramp Closure Gates 40-FT	EACH

Payment for the Ramp Closure Gate bid items is full compensation for providing ramp closure gates including support poles; for gate arm assemblies including guides, collars, and gate arms; and for structure identification plaques.

stp-662-005 (20191121)

## **46. Ramp Closure Barricade Rack 2-Unit, Item 662.6020.S.**

### **A Description**

This special provision describes providing storage racks for barricades used to temporarily close off entrance ramps to divided highways.

#### **B Materials**

Furnish wooden posts conforming to standard spec 634.2.1.

Fabricate tubular steel components using structural quality 12-gauge strip steel conforming to ASTM designation A1011, grade 50 with an average minimum yield strength, after cold-forming, of 55,000 psi. The contractor may use perforated tubing.

Hot dip galvanize each tube according to ASTM A653 grade 90. Treat corner welds and cut ends with cold-galvanized organic zinc paint as manufacturer recommends.

Furnish galvanized bolts, nuts, and washers zinc-coated according to ASTM A153.

#### **C Construction**

Install wood posts conforming to standard spec 634.3.1 and the plan details. Fabricate and install tubular steel components as the plans show.

#### **D Measurement**

The department will measure the Ramp Closure Barricade Rack bid items as each individual barricade rack, acceptably completed.

#### **E Payment**

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

ITEM NUMBER	DESCRIPTION	UNIT
662.6020.S	Ramp Closure Barricade Rack 2-Unit	EACH

Payment is full compensation for providing barricade racks; for wood posts; and for galvanized tubular steel components and hardware.

stp-662-015 (20130615)

### **47. Reconnect Storm Sewer Laterals, Item SPV.0060.0002.**

#### **A Description**

This special provision describes reconnecting existing storm sewer laterals to new structures or new pipe.

#### **B (Vacant)**

#### **C Construction**

Identify all laterals in existing structures or pipes before removal of that structure or pipe. Remove existing lateral pipes to the next engineer accepted joint and replace in-kind with equivalent modern materials such as PVC or concrete. Verify that positive drainage is achieved when connecting lateral. Salvage any structurally sound pipe that was removed if prior approval is granted by the engineer. Connect the existing pipes to the new pipes with the appropriate coupling, concrete collar or by means approved by the engineer. Use concrete masonry for concrete collar conforming to standard spec 501.

#### **D Measurement**

The department will measure Reconnect Storm Sewer Laterals by each lateral connected and approved in the field.

#### **E Payment**

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.0002	Reconnect Storm Sewer Laterals	EACH

Payment is full compensation for performing all work; removing, providing all materials, coring, couplings, concrete collars, and pipe. Any additional pipe or materials required to reconnect the storm sewer laterals shall be considered incidental to this bid item.

sef-501-005 (20170323)



**48. Inlet 5-Ft Diameter, Item SPV.0060.0003; Inlet Median 3 Grate Modified, Item SPV.0060.0004.**

**A Description**

This special provision describes providing an inlet in accordance with section 611 of the standard specs and as detailed in the plans.

**B Materials**

Furnish concrete inlets in accordance with section 611.2 of the standard specs.

Concrete shall have a compressive strength ( $f_c$ ) of 5,000 psi

Reinforcing steel shall have a yield strength of 60ksi.

Reinforcing steel shall be epoxy coated.

**C Construction**

Construct concrete inlets in accordance with section 611.3 of the standard specs, as shown in the construction details section of the plan, and as shown in the standard detail drawing "Manholes 3-FT, 4-FT, 5-FT, 6-FT, 7-FT, 8-FT, 9-FT and 10-FT Diameter."

**D Measurement**

The department will measure Inlet 5-Ft Diameter and Inlet Median 3 Grate Modified 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.0060.0003	Inlet 5-Ft Diameter	EACH
SPV.0060.0004	Inlet Median 3 Grate Modified	EACH

Payment shall be in accordance with section 611.5 of the standard specs.

**49. Storm Sewer Chamber, Item SPV.0060.0005.**

**A Description**

This special provision describes providing a concrete storm sewer chamber in accordance with section 611 of the standard specs and as detailed in the plans. The chamber shall be precast off site or precast on the project site in a location where it can be moved into the location shown on the plans.

**B Materials**

Furnish concrete, reinforcement, and trench backfill in accordance with section 611.2 of the standard specs.

**C Construction**

Construct concrete chambers in accordance with section 611.3 of the standard specs and as shown in the construction details.

Contractor to design structure to determine wall thickness, concrete cover thickness, floor thickness, and reinforcement in accordance with ASTM C913 and the construction detail in the plans. Design loads shall be in accordance with ASTM C890. Provide the engineer a shop drawings and structural calculations showing the design for the structure prior to constructing the structure.

Structure may be precast off site or constructed on site. If chamber is constructed on site it shall be constructed away from the location shown on the plan so that the existing manhole can remain operational until the chamber is ready for installation.

Remove the existing manhole and install the bottom and walls of the new chamber in one working day. The flat top slab may be installed at a later date. Bypass pump all water flowing into chamber location while chamber is being installed. Bypass pumping is incidental to installation of the storm sewer

chamber. Do not begin removal of the existing structure if precipitation is forecast during the day of chamber installation.

#### **D Measurement**

The department will measure Storm Sewer Chamber 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.0060.0005	Storm Sewer Chamber	EACH

Payment shall be in accordance with section 611.5 of the standard specs. Bypass pumping is incidental to Storm Sewer Chamber. Removal of the existing manhole shall be paid for using the item Removing Manholes.

### **50. Utility Line Opening, Item SPV.0060.0006.**

#### **A Description**

This special provision describes excavating to uncover utilities for the purpose of determining elevation and potential conflicts as shown and as directed by the engineer.

#### **B (Vacant)**

#### **C Construction**

When directed by the engineer excavate the soil above a utility to determine the exact elevation of the facility prior to excavation work.

Excavate in a manner that will not damage the existing utility and the safety of workers is not compromised.

Survey and document the elevation of the existing utility. Provide all documentation to the engineer.

If conflicts between existing utilities and proposed roadway or sewer construction are identified notify the engineer immediately.

Perform the utility line opening at least 10 calendar days prior roadway or sewer construction work affected by that utility.

Where utilities are within 6 feet of each other at a potential conflict location only one utility line opening shall be performed and only one utility line opening shall be paid for. A single utility line opening shall include a trench up to 10 feet long measured along the trench bottom, and of any depth required to locate the intended utility.

All utility line openings shall be approved by the engineer prior to the work being performed. Notify the engineer at least 3 calendar days prior to performing a utility line opening so that a representative of the engineer can be present at the utility line opening.

#### **D Measurement**

The department will measure Utility Line Opening 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. 0060.0006	Utility Line Opening	EACH

Payment is full compensation for the excavation required to expose the utility line; for backfilling with trench excavation; for compacting the backfill; for removal of any waste material; and for any other incidentals necessary to complete the project.

Existing pavement, concrete curb and gutter, and sidewalk removals necessary to facilitate utility line openings shall not be considered part of or paid for under Utility Line Openings, but shall be measured and paid for using other removal bid items. Replacement pavement, concrete curb and gutter, and sidewalk shall not be considered part of or paid for under Utility Line Opening, but shall be measured and paid for using other permanent bid items.

**51. Traffic Control Local Lane Closures, Item SPV.0060.0010.**

**A Description**

This special provision describes closing and reopening a local road lane or lanes, including full closure conforming to standard spec 643, the plans, and as directed by the engineer.

**B (Vacant)**

**C Construction**

Install or reposition traffic control devices required for closing a local road or lanes of a local road. Remove or return traffic control devices to their previous configuration when the closure is no longer required.

**D Measurement**

The department will measure Traffic Control Local Road Lane Closures by each individual closure acceptably completed. The department will not measure the closure of a local road not deemed necessary by the engineer.

**E Payment**

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.0010	Traffic Control Local Road Lane Closures	EACH

Payment is full compensation for closing and re-opening a local road lane or lanes.

sef-643-035 (20171004)

**52. Traffic Control Close-Open Freeway Entrance Ramp, Item SPV.0060.0011.**

**A Description**

This special provision describes closing and re-opening a freeway entrance ramp and associated auxiliary lane.

**B (Vacant)**

**C Construction**

Install or reposition traffic control devices required for closing a freeway entrance ramp and adjacent auxiliary lanes. Remove or return traffic control devices to their previous configuration when the closure is no longer required.

**D Measurement**

The department will measure Traffic Control Close-Open Freeway Entrance Ramp by each individual ramp closure 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. 0060.0011	Traffic Control Close-Open Freeway Entrance Ramp	EACH

Payment is full compensation for daily surveillance; preparing and submitting the daily surveillance report with hourly metered tickets; mobilization; sweeping; and disposing of materials. Traffic Control devices will be paid separately.

sef-643-001 (20180627)

**53. Traffic Control Close-Open Freeway Exit Ramp, Item SPV.0060.0012.**

**A Description**

This special provision describes closing and re-opening a freeway exit ramp and associated auxiliary lane.

**B (Vacant)**

**C Construction**

Install or reposition traffic control devices required for closing a freeway exit ramp and adjacent auxiliary lanes. Remove or return traffic control devices to their previous configuration when the closure is no longer required.

**D Measurement**

The department will measure Traffic Control Close-Open Freeway Exit Ramp by each individual ramp closure 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.0060.0012	Traffic Control Close-Open Freeway Exit Ramp	EACH

Payment is full compensation for daily surveillance; preparing and submitting the daily surveillance report with hourly metered tickets; mobilization; sweeping; and disposing of materials. Traffic Control devices will be paid separately.

**54. Bagging Signal Head, Item SPV.0060.0013.**

**A Description**

This special provision describes temporarily covering traffic signal heads not needed because of traffic staging.

**B Materials**

Provide an opaque material capable of preventing drivers from being able to see the traffic signal lights.

Provide any fasteners required to attach the cover to the traffic signal head so that the cover is capable of withstanding inclement weather.

**C Construction**

Cover the traffic signal head so the faces are not visible to drivers.

Remove the cover at the completion of the traffic control stage before the traffic lane is opened to traffic.

**D Measurement**

The department will measure Bagging Signal Head 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.0060.0013	Bagging Signal Head	EACH

Payment is full compensation for providing a traffic signal cover and fasteners, installing the cover and fasteners, maintaining the cover and fasteners, and removing the cover and fasteners.

**55. Lighting System Integrator (1060-10-72), Item SPV.0060.1001.**

**A Description**

This special provision describes coordinating lighting with various parties; record keeping, and documentation. Where the Department is responsible for freeway lighting operation, maintenance, or

utility locates on existing systems or systems overlapping project boundaries, the contractor's freeway lighting integrator will serve as the contractor's liaison to the Department's electrical operations unit.

## **B Personnel Qualifications**

Assign personnel experienced in underground utility construction and Department lighting specifications and practices.

## **C Construction**

At any one time during the project, the contractor shall assign one individual person as the freeway lighting integrator.

The freeway lighting integrator shall:

1. Familiarize himself with the location and nature of existing lighting circuits. This familiarity shall include the extent of any lighting system that overlaps project limits.
2. Maintain a file of applicable permits or licenses issued to the contractor, and convey copies to the Engineer.
3. Keep with him at all times a contact list of affected lighting personnel.
4. Maintain a record of tagouts and the clearance of tagouts.
5. Interface with Department electrical personnel to determine how contract limits might affect maintenance or operation of existing systems.
6. Maintain ongoing contact with the Department's Diggers' Hotline Coordinator to ensure that each of the two persons knows that all requested utility locates are marked in the field by the appropriate party. The intent here is to assure coordination. This special provision does not transfer additional utility locating responsibilities to the contractor, beyond those responsibilities already assigned to him by other provisions of the contract.
7. Inform the Department of any lighting outages, including outside the project limits where a lighting system crosses the project boundary.
8. Maintain in any format real-time records of existing, removed and new lighting facilities. Include utility service extensions. Additional required records will include temporary connections and their ultimate removal.
9. Maintain records of tests, including: "meg" tests, amperage draw per circuit leg, voltage reading at the disconnect, and voltage reading at the furthest pole per circuit leg. Convey these records at time of acceptance or partial acceptance.
- 10. At the time of acceptance or partial acceptance, convey as-built drawings in both the following formats: plan redlines and .dgn electronic. Include utility service extensions.**
11. Secure copies of operator's manuals, tear sheets, etc. as may be provided by manufacturers of some lighting materials, and convey a minimum of three sets to the Department.
12. Work with the Engineer to notify Department electrical personnel of acceptance or partial acceptance.
13. Perform related duties as may be needed to ensure continuity of freeway lighting during construction, and orderly transfer upon completion.

## **D Measurement**

The Department will measure Lighting System Integrator as each individual project, 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.0060.1001	Lighting System Integrator (1060-10-72)	EACH

Payment will be full compensation for providing specified expertise, assistance and documents, and personnel costs.

## **56. Lighting System Survey (1060-10-72), Item SPV.0060.1002.**

### **A Description**

This special provision describes performing a lighting system survey as-built for IH 94 East-West Freeway, Moorland Interchange, as shown on the plans, and hereinafter provided.

### **B Vacant**

### **C Construction**

Locate and survey all the lighting units, pull boxes, and control cabinets to sub-meter accuracy. Maintain neat, orderly, and complete survey notes. The survey shall be performed in NAD 83, Wisconsin County Coordinate System (WCCS), and Waukesha Coordinates. The data shall be delivered in a comma delimited text file with metadata including datum, county, and date the survey was performed. Data for each point shall have a point number, northing, easting, and point description including pole, pull box, or cabinet number.

### **D Measurement**

The department will measure Lighting System Survey as each individual project, 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.0060.1002	Lighting System Survey (1060-10-72)	EACH

Payment will be full compensation for locating and surveying all the lighting units, pull boxes, and control cabinets and for delivery of the comma delimited data file and all survey notes.

## **57. Install Poles Type 9 Special, Item SPV.0060.3000; Install Monotube Arms 45-FT Type 9/10 Special Pole, Item SPV.0060.3001.**

### **A Description**

This special provision describes transporting and installing state furnished materials conforming to standard spec 657, details shown in the plans, and as modified in this special provision.

### **B Materials**

The department will furnish the monotube poles, monotube arms and monotube luminaire arms.

Pick up the department furnished materials at the department's Electrical Shop located at 935 South 60<sup>th</sup> Street, West Allis. Notify the department's Electrical Field Unit at (414) 266-1170 and make arrangements for picking up the department furnished materials five (5) working days prior to picking the materials up.

Provide all other needed materials in conformance with sections 651.2, 652.2, 653.2, 654.2, 655.2, 656.2, 657.2, 658.2 and 659.2 of the standard specifications

### **C Construction**

Perform work in accordance with sections 651.3, 652.3, 653.3, 654.3, 655.3, 656.3, 657.3, 658.3 and 659.3 of the standard specifications.

### **D Measurement**

The department will measure Install Poles Type 9 Special and Install Monotube Arms 45-Ft Type 9/10 Special Pole 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:

### **E Payment**

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.3000	Install Poles Type 9 Special	EACH
SPV.0060.3001	Install Montube Arms 45-Ft Type 9/10 Special Pole	EACH

Payment is full compensation for transporting and installing all materials, including all associated hardware, fittings, mounting devices, and attachments necessary to completely install the pole and arms.

## **58. Transport and Install State Furnished Traffic Signal Cabinet CTH O & I-94 WB-NB Off-Ramp, Item SPV.0060.3002.**

### **A Description**

This special provision describes the transporting and installing of department furnished materials for traffic signals.

### **B Materials**

Use materials furnished by the department including: the traffic signal controller and the traffic signal cabinet.

Pick up the department furnished materials at the department's Electrical Shop located at 935 South 60th Street, West Allis. Notify the department's Electrical Field Unit at (414) 266-1170 and make arrangements for picking up the department furnished materials five (5) working days prior to picking the materials up.

Provide all other needed materials in conformance with sections 651.2, 652.2, 653.2, 654.2, 655.2, 656.2, 657.2, 658.2 and 659.2 of the standard specifications.

### **C Construction**

Perform work in accordance with sections 651.3, 652.3, 653.3, 654.3, 655.3, 656.3, 657.3, 658.3 and 659.3 of the standard specifications except as specified below.

Request a signal inspection of the completed signal installation to the project engineer at least five (5) working days prior to the time of the requested inspection. The departments' Region Electrical personnel will perform the inspection.

Coordinate directly with the department's traffic signal cabinet vendor {TAPCO at 262-814-7327 or [rickk@tapconet.com](mailto:rickk@tapconet.com) / TCC at 651-439-1737 or [mallwood@trafficcontrolcorp](mailto:mallwood@trafficcontrolcorp)} to schedule the cabinet acceptance testing. Coordinate with the department's Electrical Field Unit at (414)-266-1170 to participate in the acceptance testing. The department has final determination of the cabinet acceptance testing date and time.

### **D Measurement**

The department will measure Transport and Install State Furnished Traffic Signal Cabinet CTH O & I-94 WB-NB Off Ramp 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.0060.3002	Transport and Install State Furnished Traffic Signal Cabinet CTH O & I-94 WB-NB Off-Ramp	EACH

Payment is full compensation for transporting and installing the traffic signal controller and the traffic signal cabinet; for furnishing and installing all other items necessary (such as, wire nuts, splice kits and/or connectors, tape, insulating varnish, ground lug fasteners, etc.) to make the proposed system complete from the source of supply to the most remote unit and for clean-up and waste disposal.

## **59. Transport Traffic Signal & Intersection Lighting Materials CTH O & IH 94 WB-NB Off-Ramp, Item SPV.0060.3003.**

### **A Description**

This special provision describes the transporting of department furnished materials for traffic signals and intersection lighting.

### **B Materials**

Transport materials furnished by the department including: Monotube arms/poles and luminaire arms (to be installed on monotube assemblies).

Pick up the department furnished materials at the department's Electrical Shop located at 935 South 60th Street, West Allis. Notify the department's Electrical Field Unit at (414) 266-1170 and make arrangements for picking up the department furnished materials five (5) working days prior to picking the materials up.

Provide all other needed materials in conformance with sections 651.2, 652.2, 653.2, 654.2, 655.2, 656.2, 657.2, 658.2 and 659.2 of the standard specifications.

### **C Construction**

Perform work in accordance with sections 651.3, 652.3, 653.3, 654.3, 655.3, 656.3, 657.3, 658.3 and 659.3 of the standard specifications except as specified below.

#### **D Measurement**

The department will measure Transport Traffic Signal & Intersection Lighting Materials CTH O & I-94 WB-NB Off Ramp 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.0060.3003	Transport Traffic Signal & Intersection Lighting Materials CTH O & I-94 WB-NB Off-Ramp	EACH

Payment is full compensation for transporting the monotube poles/arms and luminaire arms (to be installed on monotubes). Installation of these materials is included under a separate pay item.

### **60. Transport & Install State Furnished EVP Detector Heads CTH O & IH 94 WB-NB Off-Ramp, Item SPV.0060.3004.**

#### **A Description**

This special provision describes the transporting and installing of department furnished Emergency Vehicle Preemption (EVP) Detector Heads with confirmation lights and mounting brackets at CTH O & IH 94 WB to NB Off-Ramp.

#### **B Materials**

Pick up the department furnished materials at the department's Electrical Shop located at 935 South 60<sup>th</sup> Street, West Allis. Notify the department's Electrical Field Unit at (414) 266-1170 and make arrangements for picking up the department furnished materials five working days prior to picking the materials up.

#### **C Construction**

Install the EVP detector heads and confirmation lights as shown on the plans. The department will determine the exact location to ensure that the installation does not create a sight obstruction. Mount the EVP detector heads, confirmation lights, and wire them per manufacturer instructions. For a cabinet that is not operating the signal, the contractor will terminate the ends and install the discriminators and card rack in the cabinet. If the cabinet is operating the signal, the cabinet wiring will be done by the department.

Notify the department's Electrical shop at (414) 266-1170 upon completion of the installation of the Emergency Vehicle Preemption (EVP) Detector Heads and confirmation lights.

#### **D Measurement**

The department will measure Transport & Install State Furnished EVP Detector Heads CTH O & I-94 WB-NB Off Ramp 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.0060.3004	Transport & Install State Furnished EVP Detector Heads CTH O & I-94 WB-NB Off-Ramp	EACH

Payment is full compensation for transporting and installing of department furnished Emergency Vehicle Preemption (EVP) Detector Heads, confirmation lights, and mounting brackets.

### **61. Temporary Emergency Vehicle Preemption (EVP) System CTH O & IH 94 WB-NB Off-Ramp, Item SPV.0060.3005.**

#### **A Description**

This special provision describes furnishing, installing, and maintaining an emergency vehicle preemption system at the temporary signalized intersection as shown in the plans.

#### **B Materials**



Furnish an emergency vehicle preemption system compatible with the municipality's systems and users. Contact the appropriate municipality for information to confirm the operational requirements of the temporary emergency vehicle preemption system.

### **C Construction**

The Temporary EVP System, as shown in the temporary traffic signal plans or as directed by the engineer, shall be complete in place, tested, and in full operation during each stage and sub-stage of construction and after the completion of roadway construction.

Install the EVP system as shown in the plans for each construction stage and according to the manufacturer's recommendations. Detectors may be mounted on the temporary traffic signal span wire or wood poles. Relocate the temporary EVP detectors to a suitable location if construction activities and/or construction staging changes impede the detector operation. Arrange for testing of equipment prior to acceptance of the installation for each construction stage.

All cables associated with the temporary EVP system shall be routed to the cabinet. Each lead shall be appropriately marked as to which EVP channel it is associated.

Periodic adjustment and/or moving of the temporary EVP detectors may be required due to changes in traffic control, staging, or other construction operations.

Ensure that the temporary EVP system stays in clean working order. Periodic cleaning of the equipment may be required due to dirt and dust build-up.

Remove the temporary EVP system upon project completion.

Provide the engineer records of all EVP settings used during construction.

### **D Measurement**

The department will measure Temporary Emergency Vehicle Preemption (EVP) System CTH O & I-94 WB-NB Off Ramp 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.0060.3005	Temporary Emergency Vehicle Preemption (EVP) System CTH O & I-94 WB-NB Off-Ramp EACH	

Payment is full compensation for furnishing and installing all required equipment, materials, and supplies; for maintaining and changing the EVP detectors and confirmation lights to match the plans, traffic control, and construction staging; for relocating the temporary EVP detectors and confirmation lights due to construction activities, if required; for testing the EVP system with confirmation lights for each stage and sub-stage of construction; for periodically cleaning all temporary EVP detectors and confirmation lights; for cleaning up and properly disposing of waste; and incidentals necessary to complete the contract work.

## **62. Abandon Concrete Bases, Item SPV.0060.3006.**

### **A Description**

This special provision describes partially breaking down and removing Type 13 concrete bases and filling area to grade.

### **B Materials**

(Vacant)

### **C Construction**

*Append section 204.3.2.1(2) of the standard specifications with the following:*

For the Type 13 concrete base shown on the removal plans, break down and remove the concrete base material to a depth of two (2) feet below grade. Fill the area to grade with similar material as adjacent to the base (granular backfill, topsoil, seed, etc). Do not remove the full depth concrete base or wingwalls.

### **D Measurement**

The department will measure Modify Concrete Bases 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.0060.3006	Abandon Concrete Bases	EACH

Payment is full compensation for breaking down, removing, and restoring Type 13 concrete bases as shown on the plans.

**63. Remove, Salvage & Reinstall EVP Equipment IH 94 WB On Ramp & CTH O, Item SPV.0060.3007.**

**A Description**

This special provision describes removing, salvaging, and reinstalling existing emergency vehicle preemption (EVP) equipment from the existing and temporary traffic signals in accordance to the pertinent provisions of sections 204, 655, and 658 of the standard specifications and as hereinafter provided.

**B (Vacant)**

**C Construction**

The Department assumes that all equipment is in good condition and in working order prior to the contractor's removal operation. Prior to removal, inspect and provide a list of any damaged or non-working emergency vehicle preemption equipment to the engineer. Replace any equipment not identified as damaged or not working, prior to removal at no cost to the Department.

Notify the Department at least five (5) working days prior to the removal of the emergency vehicle preemption equipment.

Remove the emergency vehicle preemption equipment, including, but not limited to: cabling, detector units, discriminator, and detector card. Safety store equipment in an approved storage area undisturbed by construction.

Upon direction from the engineer, reinstall the salvaged equipment on the temporary and proposed traffic signal. Perform all work in accordance with section 658 of the standard specifications. The emergency vehicle preemption equipment shall be installed and function in the same manner as the existing permanent traffic signal unless noted otherwise on the plans. Additional cabling required for reinstallation will be paid as a separate item.

**D Measurement**

The department will measure Remove, Salvage & Reinstall EVP Equipment IH 94 WB On Ramp & CTH O 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.0060.3007	Remove, Salvage & Reinstall EVP Equipment IH 94 WB On Ramp & CTH O	EACH

Payment is full compensation for removing, salvaging, transporting, and reinstalling the emergency vehicle preemption equipment (existing to temporary & temporary to permanent); and for furnishing all labor, tools, equipment, and incidentals necessary to complete the contract work.

The pay item includes removal and reinstallation from the existing signal to temporary signal and from the temporary signal to permanent signal as one unit.

**64. Install Fiber Optic Communications in Cabinet IH 94 WB to NB Off Ramp & CTH O, Item SPV.0060.3008.**

**A Description**

This special provision describes the installation of fiber optic communications equipment in the traffic signal cabinet.

**B Materials**

The department will furnish pre-terminated fiber optic patch panels or fiber termination panels. The materials will be provided with the traffic signal cabinet. The patch panels will have pre-terminated fiber optic cable pigtails. Provide two each 1-meter lengths of ST-ST single mode fiber jumper (2 fibers per jumper) from the patch panel to the Ethernet switch. Provide all patch panel or termination panel attachment hardware.

Provide a 14 AWG XLP insulated, stranded, copper, 600 volt AC locate wire through the conduit run from the communication vault to the traffic signal cabinet. Connect the locate wire by using a silicone filled wire nut at each pull box, vault or other access point. Alternatively, use a single wire through the access points, leaving a six (6) foot coil in each pull box, vault or other access point for splicing. All material under this item shall meet the requirements of section 655 of the Standard Specifications.

### **C Construction**

Install the patch panel or termination panel on the side of the traffic signal cabinet opposite the electrical service at a location as approved by the engineer. Install the pre-terminated fiber optic cable in conduit from the patch panel to the communication vault as specified in section 678.3.1 of the standard specifications. Fiber optic cable ends shall be covered securely to protect open ends during installation in raceways. Leave the remainder of the fiber optic cable coiled in the communication vault.

Install the fiber jumpers and provide a communications link from the FTMS cabinet to the controller.

Connect the locate wire by using a wire nut at each access point. Alternatively, use a single wire through the access points.

### **D Measurement**

The department will measure Remove, Salvage & Reinstall EVP Equipment IH 94 WB On Ramp & CTH O 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.0060.3008	Install Fiber Optic Communications in Cabinet IH 94 WB to NB Off Ramp & CTH O	EACH

Payment is full compensation for installing pre-terminated patch panels or termination panels and fiber optic cable in conduit; furnishing and installing attachment hardware, fiber jumpers, and locate wire; and for furnishing all labor, tools, equipment, and incidentals necessary to complete the contract work. Removal of the existing equipment from the traffic signal cabinet and installation of the ethernet switch are paid for as separate items.

## **65. Remove, Salvage, and Reinstall Overhead Sign Support S-67-613, Item SPV.0060.4001.**

### **A Description**

This special provision describes removing the existing overhead sign support and signs, salvaging and storing the existing sign support and signs during construction, and reinstallation of the overhead sign support and signs at a time specified in the traffic control plans.

### **B Materials**

#### **B.1 Concrete Bases**

Furnish concrete and steel reinforcement for concrete bases in accordance with Section 636.2 of the standard specs.

#### **B.2 Anchor Rods**

Provide anchor rods, nuts, and washers in accordance with section 641.2.2.3 of the standard specs.

#### **B.3 Replacement of Damaged Materials**

Replacement of damaged overhead sign support components shall be in accordance with section 641.2.9 of the standard specs and shall be from the same manufacturer as the original overhead sign support manufacturer unless otherwise approved in writing by the engineer. Replacement of damaged signs shall be in accordance with section 637.2 of the standard specs.

### **C Construction**

### **C.1 Documentation of Existing Overhead Sign Support**

Provide documentation to the engineer of any existing damage to the overhead sign structure or the existing signs prior to removal of the overhead sign support. The contractor shall be responsible for any undocumented damage to the overhead sign support or signs.

### **C.2 Removal of Existing Overhead Sign Support and Base**

Remove the existing overhead sign support structure and signs without damaging the overhead sign support or signs attached to the overhead sign support. Store the overhead sign support at a location outside the grading limits where it will not be damaged by construction activities. The overhead sign support may be stored as a single assembled unit or may be disassembled while not in use.

Remove the existing concrete bases to at least 2 feet below subgrade in accordance with section 204 of the standard specs.

### **C.3 Concrete Bases**

Construct a new 36-Inch diameter concrete bases in accordance with section 636.3 of the standard specs.

Construct the top of footing elevation so that the sign maintains proper vertical clearance to the roadway.

### **C.4 Reinstall Overhead Sign Support**

Install the existing overhead sign support in accordance with section 641.3 of the standard specs. The sign support shall be fully assembled and signs shall be mounted to the sign support prior to installation of the sign support.

Any overhead sign support components or signs damaged during removal or storage shall be replaced using components from the manufacturer of the original sign support unless approved in writing by the engineer. All new components shall be assembled onto the overhead sign support prior to installation of the sign support.

Field measure and provide documentation to the engineer of the as-built vertical clearance of the sign structure after installation.

## **D Measurement**

The department will measure Remove, Salvage, and Reinstall Overhead Sign Support S-67-613 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.0060.0001	Remove, Salvage, and Reinstall Overhead Sign Support S-67-613	EACH

Payment is full compensation for removing, storing, and reinstalling the overhead sign support and attached signs; for removing the existing concrete bases; for drilling and constructing a new concrete base; and for furnishing all labor, tools, equipment, and incidentals necessary to complete the contract work.

Missing components or signs and components or signs damaged by the contractor during construction shall not be eligible for additional payment. Missing components or signs and damaged components or signs shall be replaced to the satisfaction of the department at no additional cost to the department.

## **66. Water Main Offset 12-Inch, Item SPV.0060.5001.**

### **A Description**

Furnish and install a water main offset as shown Standard Specifications for Sewer and Water Construction in Wisconsin, 6th Edition and all amendments, File No. 47, where required to provide proper clearance (18" minimum separation required) between the water main and a storm sewer/catch basin or other structure. Note following modification to File No. 47: use restrained joints instead of rods.

### **B Materials**

The water main offset shall be constructed of AWWA C900 PVC pipe and ductile iron fittings (polyethylene encased) and restrained joints.

Fittings and bolts shall be per Section 8.22.2 of the Standard Specifications for Sewer and Water Construction in Wisconsin, 6th Edition and all amendments.

The bedding and cover material shall be in conformance with Section 8.43.2 Table 32 of the Standard Specifications for Sewer and Water Construction in Wisconsin, 6th Edition and all amendments and shall consist of 3/8 inch crushed limestone.

Crushed stone or crushed concrete backfill shall conform to the 1-1/2 inch graded crushed stone called for in Section 8.43.7 of the Standard Specifications for Sewer and Water Construction in Wisconsin, 6<sup>th</sup> Edition and all amendments.

### **C Construction**

The contractor shall first excavate to expose the existing water main, determine the depth, and coordinate with the City Engineer to determine if an offset is necessary. Construct the water main offset per the Standard Specifications for Sewer and Water Construction in Wisconsin, 6th Edition and all amendments, File No. 47. Note following modification to File No. 47: use restrained joints instead of rods.

The contractor shall contact affected businesses and residents to coordinate any necessary water main shutdowns a minimum of 24 hours prior to starting the work. Install water main offsets with minimum amount of service interruption. After hours or weekend work shall be required as necessary.

All pipe and fittings shall be disinfected prior to installation per the Standard Specifications for Sewer and Water Construction in Wisconsin, 6th Edition and all amendments.

The water main offset shall be insulated according to the Standard Specifications for Sewer and Water Construction in Wisconsin, 6th Edition and all amendments, File No. 48.

The contractor shall connect the new water main offset to the existing water main. This connection shall include, but not be limited to, locating, excavating, draining down, and cutting into the existing pipe. It shall also include the removal of any existing pipe, gate valves, and fittings along with the installation of any sleeves, fittings, and pipe required to make the connection.

All water main offsets shall be installed with 10 gauge copper tracer wire with the color of blue for water main. The wire shall be connected to the existing tracer wire installed with the in-place water main on either side. This splice shall be made utilizing SnakeBite water proof connectors manufactured by Copperhead Industries or approved equal. Soldering wires together is not allowed.

The bedding and cover material for the water main offset installation shall have a minimum of 4" bedding to a cover of 12" above the crown of the pipe. Care must be taken to ensure proper compaction of said bedding material under the lower quadrants of the pipe.

All trenches for the water main offset installation in the surfaced section of existing streets, driveways, parking areas, sidewalks, street shoulders or within five feet of the edge of such surfaces or shoulders shall be backfilled with slurry backfill.

Contact the Brookfield Engineering Department to schedule inspection, at (262) 787-3919, three (3) calendar days prior to work being performed.

### **D Measurement**

The department will measure Water Main Offset 12-Inch 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.0060.5001	Water Main Offset 12-Inch	EACH

Payment is full compensation for furnishing labor, materials, excavation, necessary removals, bedding, pipe laying, fittings, pipe disinfection, connections to the existing water main, sheathing, shoring, dewatering, backfill to the bottom of storm sewer for which the offset is required, testing, and incidentals necessary to complete work. Insulation will be paid for separately at its respective unit bid price.

**67. Adjust Sanitary Sewer Manhole, Item SPV.0060.5002.**

**A Description**

This special provision describes the adjustment of City of Brookfield sanitary sewer manholes from the top of cone to the top of manhole frame and cover. Perform this work in accordance to the pertinent provisions of the Standard Specifications for Sewer and Water Construction in Wisconsin, 6th Edition and all amendments, except as herein modified.

**B Materials**

Make adjustments using concrete adjusting rings and mortar.

**C Construction**

Perform work in accordance to the Standard Specifications for Sewer and Water Construction in Wisconsin, 6th Edition and all amendments. Set manhole frames to finished grade. All work shall be per City of Brookfield Standard Detail Plate No. SAN-1 and Plate No. SAN-2.

A sanitary manhole seal shall be installed upon completion of the work performed.

Contact the Brookfield Engineering Department to schedule inspection, at (262) 787-3919, three (3) calendar days prior to work being performed.

**D Measurement**

The department will measure Adjust Sanitary Sewer Manhole 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.0060.5002	Adjust Sanitary Sewer Manhole	EACH

Payment is full compensation for adjusting existing manhole frame and casting to finish grade from the top of existing cone to the top of manhole frame and casting. This shall include but not be limited to construction, necessary removals, excavation, backfilling, and for furnishing all labor, tools, equipment and incidentals necessary to complete the work in accordance to the requirements of the plans and contract.

Multiple adjustments required to perform this work or additional adjustments as directed by the Engineer shall be considered incidental.

Sanitary manhole seals will be paid separately at their respective unit bid price.

**68. Sanitary Manhole Seal, Item SPV.0060.5003.**

**A Description**

This special provision describes the installation of sanitary manhole seals.

**B Materials**

Sanitary manhole seals, shall meet the material requirements of section 8.42.3 and the performance requirement of section 8.42.4 of the Standard Specifications for Sewer and Water Construction, 6<sup>th</sup> Edition and all amendments, except as herein modified.

Sanitary Manhole Seals shall be Adaptor Internal/External seal ring or approved equal in accordance with City of Brookfield Standard Detail Plate No. SAN-1 and Plate No SAN-2.

**C Construction**

Use methods that conform with Section 3 of the Standard Specifications for Sewer and Water Construction in Wisconsin, 6th Edition and all amendments. Install seals in accordance to the manufacturer's recommended installation procedures and per the City of Brookfield Standard Detail Plate No. SAN-1 and Plate No. SAN-2.

Install all sanitary manhole seals after the manholes have been adjusted to proper grade, during placement of base aggregate dense, and prior to the completion of the pavement.

Contact the Brookfield Engineering Department to schedule inspection, at (262) 787-3919, three (3) calendar days prior to work being performed.

**D Measurement**

The department will measure Sanitary Manhole Seal 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.0060.5003	Sanitary Manhole Seal	EACH

Payment is full compensation for installing a manhole seal for a sanitary manhole; and for furnishing all labor, tools, equipment, materials, and incidentals necessary to complete the work.

**69. Concrete Curb & Gutter 30-Inch Type A HES, Item SPV.0090.0001.**

**A Description**

This special provision describes constructing concrete curb & gutter using high early strength concrete (HES) pavement.

**B Materials**

Provide high early strength concrete in accordance with section 416.2 of the standard specs. Provide a concrete mix that allows concrete to be cured enough for pedestrian traffic by the time that overnight lane closures must be removed.

**C Construction**

Construct in accordance with section 601.3 of the standard specs.

**D Measurement**

The department will measure Concrete Curb & Gutter 30-Inch Type A HES and Concrete Curb Pedestrian HES by the linear foot acceptably completed measured along the face of curb.

**E Payment**

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.0001	Concrete Curb & Gutter 30-Inch Type A HES	LF

Payment shall be in accordance with section 601.5 of the standard specs.

**70. Construction Staking Fence, Item SPV.0090.0002.**

**A Description**

This special provision describes the contractor-performed staking required for the proposed fence conforming to standard spec 650 and as follows.

**B (Vacant)**

**C Construction**

Use methods that conform to standard spec 650.3.

Set and maintain stakes as necessary to locate points along fence lines in order to install fencing as the plans show. Stakes may not be installed in a wetland.

**D Measurement**

The department will measure Construction Staking Fence by the linear foot acceptably completed measured along the base of the fence.

**E Payment**

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.0002	Construction Staking Fence	LF

The department will not make final payment for staking until the contractor submits all survey notes and computations used to establish the required lines to the engineer within 21 days of completing the work. The department will deduct from payments due the contractor for the additional costs specified in standard spec 105.6.

Payment is full compensation for locating and setting all construction stakes; for providing construction stakes; for relocating and resetting damaged or missing construction stakes.

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**71. Storm Sewer Pipe Reinforced Concrete Horizontal Elliptical Class HE-IV 38x60-Inch, Item SPV.0090.0004.**

**A Description**

This special provision describes providing and installing horizontal elliptical shaped concrete storm sewer with interior dimensions of 38x60-Inch.

**B Materials**

Provide concrete pipe in accordance with section 608.2 of the standard specs.

**C Construction**

Construct in accordance with section 608.3 of the standard specs.

**D Measurement**

The department will measure Storm Sewer Pipe Reinforced Concrete Horizontal Elliptical Class HE-IV 38x60-Inch by the linear foot acceptably completed measured center of structure to center of structure.

**E Payment**

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.0004	Storm Sewer Pipe Reinforced Concrete Horizontal Elliptical Class HE-IV 38x60-Inch	LF

Payment shall be in accordance with section 608.5 of the standard specs.

**72. Concrete Sidewalk 5-Inch HES, Item SPV.0165.0001; Concrete Safety Island HES, Item SPV.0165.0002.**

**A Description**

This special provision describes providing and installing concrete sidewalk and concrete safety islands using high early strength concrete.

**B Materials**

Provide high early strength concrete in accordance with section 416.2 of the standard specs. Provide a concrete mix that allows concrete to be cured enough for pedestrian traffic by the time that overnight lane closures must be removed.

**C Construction**

Construct in accordance with section 602.3 of the standard specs.

**D Measurement**

The department will measure Concrete Sidewalk 5-Inch HES and Concrete Safety Island HES 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
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SPV.0165.0001 Concrete Sidewalk 5-Inch HES

SF

SPV.0165.0002 Concrete Safety Island HES

SF

Payment shall be in accordance with section 602.5 of the standard specs.

### **73. Removing Loose Concrete Overhead, Item SPV.0165.4000.**

#### **A Description**

This special provision describes removing vertical, horizontal, and overhead concrete that is visually delaminated or deteriorated on structures as shown on the plans or as directed by the engineer and applying a migrating corrosion inhibitor to existing and new areas of exposed steel reinforcing and spalled concrete. This work shall be according to the pertinent parts of standard spec 517 and the details as shown in the plans.

#### **B Materials**

Furnish a migrating corrosion inhibitor for vertical, horizontal, and overhead applications that is in accordance with the pertinent requirements of section 517 of the standard specs containing the following physical properties:

- Color Appearance: clear yellow viscous liquid
- pH: 9.0 - 10.9 (neat)
- Density: 8.6 – 8.8 lb/gal (1.03 – 1.05 kg/liter)
- Viscosity (or flow) similar to syrup and higher than water
- Odor: slight ammonia smell
- Non-volatile content: 20% - 27%

Migrating corrosion inhibitor provided in this section shall conform to the requirements for each type and class of concrete required, with the following typical physical properties and requirements:

- Organic liquid
- Water-based
- Non-flammable
- Non-vapor barrier
- Non-toxic, oral LD 50 2,000 g/kg maximum, or lower
- Protects both anodic and cathodic areas
- Does not contain calcium nitrite
- Non-polluting after flushing or dilution
- Non-harmful to plant life after flushing or dilution
- Approved for potable water applications by NSF Standard 61
- Certified for potable water applications by Underwriters Laboratories
- Not carcinogenic under Occupational Safety and Health Agency, NTP, or IARC
- Seven-year minimum usage experience as a migrating corrosion inhibitor
- Confirmed effective by ASTM G-109
- Proven effective as reported by the Strategic Highway Research Program funded by the United States of America, Department of Transportation (USDOT), federal government, and state DOT's.

#### **C Construction**

##### **C.1 Preparation**

Remove all deteriorated concrete that is in danger of falling off the structure onto persons, traffic, or areas below the bridge, and as directed by the engineer. Use of power hammers is not allowed. Take necessary precautions while removing deteriorated concrete to preserve all existing reinforcing steel. Saw cutting of

edges is not needed. Concrete and adjacent surfaces should be dry, clean, and free of all dirt, oil, grease, efflorescence, sealers, coatings, curing compounds, membranes, rubber tire marks, and asphalt. Clean surface by stream cleaning, water blasting, sandblasting, or shot blasting. Use an air compressor with water and oil trap to ensure the cleaning method does not apply materials intended for removal. Use brush, broom, sweeper, or air compressor on surfaces as final cleaning before application. Use brush, broom, sweeper, or air compressor to chase cracks as final cleaning before application. Implement necessary procedures to prevent debris from falling into the water.

## **C.2 Surface Application**

Use the corrosion inhibitor for vertical and overhead surface applications. Apply the solution by spray (conventional airless or hand pressure spray equipment), roller, squeegee, or paintbrush. Follow manufacturer's application rate, but at a minimum apply a rate of 150 square feet per gallon (3.7 square meters per liter). Minimal dry time is required and is usually minutes after treatment. Do not apply if the ambient temperature near the applied concrete surface is expected to fall below 32° F within 12 hours of application or if precipitation is expected within 8 hours after application.

## **D Measurement**

The department will measure Removing Loose Concrete Overhead 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.0165.4000	Removing Loose Concrete Overhead	SF

Payment is full compensation for concrete removal and disposal, cleaning and preparation, and for furnishing and applying the product.