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Letting January 19, 2024

Notice to Bidders, Specifications and Proposal



**Contract No. 64R71
WINNEBAGO County
Section (5)RS & (5&5HB)RC
Route FAI 39, FAP 525
Project NHPP-6QNF(571)
District 2 Construction Funds**

Prepared by

Checked by

F



- 1. TIME AND PLACE OF OPENING BIDS.** Electronic bids are to be submitted to the electronic bidding system (iCX-Integrated Contractors Exchange). All bids must be submitted to the iCX system prior to 12:00 p.m. January 19, 2024 at which time the bids will be publicly opened from the iCX SecureVault.
- 2. DESCRIPTION OF WORK.** The proposed improvement is identified and advertised for bids in the Invitation for Bids as:

**Contract No. 64R71
WINNEBAGO County
Section (5)RS & (5&5HB)RC
Project NHPP-6QNF(571)
Route FAI 39, FAP 525
District 2 Construction Funds**

- 3. INSTRUCTIONS TO BIDDERS.** (a) This Notice, the invitation for bids, proposal and letter of award shall, together with all other documents in accordance with Article 101.09 of the Standard Specifications for Road and Bridge Construction, become part of the contract. Bidders are cautioned to read and examine carefully all documents, to make all required inspections, and to inquire or seek explanation of the same prior to submission of a bid.

(b) State law, and, if the work is to be paid wholly or in part with Federal-aid funds, Federal law requires the bidder to make various certifications as a part of the proposal and contract. By execution and submission of the proposal, the bidder makes the certification contained therein. A false or fraudulent certification shall, in addition to all other remedies provided by law, be a breach of contract and may result in termination of the contract.
- 4. AWARD CRITERIA AND REJECTION OF BIDS.** This contract will be awarded to the lowest responsive and responsible bidder considering conformity with the terms and conditions established by the Department in the rules, Invitation for Bids and contract documents. The issuance of plans and proposal forms for bidding based upon a prequalification rating shall not be the sole determinant of responsibility. The Department reserves the right to determine responsibility at the time of award, to reject any or all proposals, to re-advertise the proposed improvement, and to waive technicalities.

By Order of the
Illinois Department of Transportation

Omer Osman,
Secretary

INDEX
 FOR
 SUPPLEMENTAL SPECIFICATIONS
 AND RECURRING SPECIAL PROVISIONS

Adopted January 1, 2024

This index contains a listing of SUPPLEMENTAL SPECIFICATIONS and frequently used RECURRING SPECIAL PROVISIONS.

ERRATA Standard Specifications for Road and Bridge Construction (Adopted 1-1-22) (Revised 1-1-24)

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STATE OF ILLINOIS

SPECIAL PROVISIONS

The following Special Provisions supplement the "Standard Specifications for Road and Bridge Construction," adopted January 1 2022, the latest edition of the "Manual on Uniform Traffic Control Devices for Streets and Highways," and the "Manual of Test Procedures for Materials" in effect on the date of invitation for bids, and the Supplemental Specifications and Recurring Special Provisions indicated on the Check Sheet included herein which apply to and govern the construction of, FAI 39 (I-39) & FAP 525 (US 20), Project NHPP-6QNF(571), Section (5)RS & (5&5HB)RC, Winnebago County, Contract No. 64R71 and in case of conflict with any part or parts of said Specifications, the said Special Provisions shall take precedence and shall govern.

LOCATION OF PROJECT

This project location is at the interchange of I-39 (FAI 39) and Harrison Avenue/US 20 (FAP 525), approximately 0.7 miles south of the I-39/I-90 interchange on I-39, T43N & T44N, R2E, sections 9, 10, and 16 in Cherry Valley Township, in Winnebago County, IL.

DESCRIPTION OF PROJECT

This project consists of the reconstruction of the Harrison Avenue/I-39/US 20 Interchange. The project will reconstruct the interchange ramps, I-39 from Harrison Avenue to just south of the I-39/I-90 interchange and Harrison Avenue from approximately Mall Drive to Mill Road.

COMPLETION DATE PLUS WORKING DAYS

Revise Article 108.05(b) of the Standard Specifications to read:

“(b) Completion Date Plus Working Days. When a completion date plus working days is specified, the Contractor shall complete all contract items to safely open all roadways to traffic by 11:59 p.m. on or prior to **Friday, November 21, 2025**, except as specified herein.

The Contractor will be allowed **30** working days after the completion date for opening the roadway to traffic to complete clean-up work and punch list items. Miscellaneous items may be completed within the working days allowed for clean-up work and punch list items if approved by the Engineer. Temporary lane closures for this work (adhering to the restrictions set forth in the TRAFFIC CONTROL PLAN) may be allowed at the discretion of the Engineer.”

INTERIM COMPLETION TIME RESTRICTIONS – MALL DRIVE STAGED CONSTRUCTION WORK

The Contractor shall complete all required work associated with Mall Drive Stage 1A-1 to Stage 1A-4 within **30 calendar days**. The calendar days restrictions shall begin when Mall Drive lane closures are put in place per Maintenance of Traffic Plan Stage 1A-1. The calendar days restriction shall end when all lanes of Mall Drive are open to traffic following Stage 1A-4. Harrison Avenue Stage 2, 2A-1 and 2A-2 construction will not be considered Mall Drive Construction and calendar days restrictions for Stage 2A-1 and 2A-2 will be separate from the Mall Drive interim completion time restrictions.

The work completed on Mall Drive shall adhere to the INTERIM COMPLETION DATE – MALL DRIVE CONSTRUCTION specification.

INTERIM COMPLETION TIME RESTRICTIONS – HARRISON AVENUE AT MALL DRIVE STAGED CONSTRUCTION WORK

The Contractor shall complete the work required in Stage 2A-1 and 2A-2 within **72 hours**. The hours restrictions shall begin when Mall Drive lane closures are put in place per Maintenance of Traffic Plan Stage 2A-1. The calendar days restriction shall end when all lanes of Mall Drive are open to traffic following Stage 2A-2. Harrison Avenue Stage 2A construction will not be considered Mall Drive Construction and the hours restrictions for Stage 2A will be separate from INTERIM COMPLETION DATE – MALL DRIVE CONSTRUCTION and INTERIM COMPLETION TIME RESTRICTIONS – MALL DRIVE STAGED CONSTRUCTION WORK.

INTERIM COMPLETION DATE – MALL DRIVE CONSTRUCTION

The Contractor shall complete all required work associated with Mall Drive construction on or before **July 1, 2024**. The work on Mall Drive shall be completed before 12:01 am on July 1, 2024.

The work associated with the Mall Drive construction shall include (but is not limited to):

- North Leg
 - Completion of concrete curb and gutter, full depth pavement, all pavement marking, and all safety features.
- South Leg
 - Completion of curb and gutter, full depth pavement, resurfacing, all pavement marking, and all safety features

Median and island construction will not be considered Mall Drive Construction and is not subject to INTERIM COMPLETION DATE – MALL DRIVE CONSTRUCTION. After the INTERIM COMPLETION DATE – MALL DRIVE CONSTRUCTION, an additional 5 Working Days will be allowed to complete all other remaining clean-up work and punch list items required for Mall Drive completion which do not require lane closure. Harrison Avenue Stage 2B construction will not be considered Mall Drive Construction and is not subject to the interim completion date for Mall Drive Construction. Refer to INTERIM COMPLETION TIME RESTRICTIONS – MALL DRIVE STAGED CONSTRUCTION WORK.

INTERIM COMPLETION DATE – WINTER SHUTDOWN

The Winter Stage traffic configuration shall be in place on or before 11:59PM Thursday, November 21, 2024. These Winter Shutdown work restrictions will be valid in order to complete the work per the specifications. Traffic may be shifted out of the Winter configuration and into Stage 3 configuration on or after 11:59PM Monday, March 17, 2025. Work may start before March 14, 2025 if approved by Operations.

The work associated with the Winter Shutdown shall be per the Special Provision for TRAFFIC CONTROL PLAN Winter Shutdown.

INTERIM COMPLETION DATE – STAGE 3B

The Contractor shall complete all pavement and drainage work for Stage 3B construction by **June 30, 2025** to allow Stage 1B of the 64C24 Contract to be implemented. The work associated with Stage 3B shall be completed by 12:01 am on July 1, 2025.

The work associated with the Stage 3B construction shall include (but is not limited to):

- I-39 SB full depth pavement, shoulders, temporary pavement tying ultimate pavement to existing, drainage, pavement marking and safety features
- I-39 NB full depth pavement, shoulders, temporary pavement tying ultimate pavement to existing, drainage, pavement marking and safety features

After the INTERIM COMPLETION DATE – STAGE 3B, an additional 5 Working Days will be allowed to complete all other remaining clean-up work and punch list items required for Stage 3B completion which do not require lane closure.

FAILURE TO COMPLETE THE WORK ON TIME – INTERIM COMPLETION DATES, TIME RESTRICTIONS AND WINTER SHUTDOWN

Should the Contractor fail to complete the work on or before the interim completion date as specified in the Special Provisions for “**INTERIM COMPLETION DATE – MALL DRIVE CONSTRUCTION WORK**”, “**INTERIM COMPLETION DATE - STAGE 3B**”, “**INTERIM COMPLETION TIME RESTRICTIONS – HARRISON AVENUE AT MALL DRIVE STAGED CONSTRUCTION WORK**”, “**INTERIM COMPLETION TIME RESTRICTIONS – MALL DRIVE STAGED CONSTRUCTION WORK**” or the Winter Stage traffic configuration date specified for **WINTER SHUTDOWN**, or within such extended time as may have been allowed by the Department, the Contractor shall be liable to the Department in the amount of SIX THOUSAND SEVEN HUNDRED SEVENTY FIVE DOLLARS (**\$6,775**), not as a penalty but as liquidated damages, for each calendar day overrun in the contract time or such extended time as may have been allowed. Such damages may be deducted by the Department for any monies due to the Contractor.

In fixing the damages set herein, the desire is to establish a certain mode of calculation for the work because the Department’s actual loss in the event of delay, cannot be predetermined, would be difficult of ascertainment, and a matter of argument and unprofitable litigation. This said mode is an equitable rule for measurement of the Department’s actual loss and fairly takes into account the loss of use of the roadway if the project is delayed in completion. The Department shall not be required to provide any actual loss in order to recover these liquidated damages provided herein, as said damages are very difficult to ascertain. Furthermore, no provisions of this clause shall be construed as a penalty, as such is not the intention of the parties.

A calendar day is every day on the calendar and starts at 12:00 midnight and ends at the following 12:00 midnight, twenty-four hours later.

COORDINATION WITH ADJACENT AND/ OR OVERLAPPING CONTRACTS

This contract abuts and/ or overlaps with other concurrent and future Illinois Department of Transportation (IDOT) and Illinois Tollway Contracts as listed below.

Each contract includes work items requiring close coordination between the various Contractors regarding the sequence and timing for execution of work items in accordance with Article 105.08 of the Standards Specifications and as herein noted.

This contract also includes critical work items that affect the future staging of traffic and/ or the completion dates of other contracts. Each of the contracts depends on certain portions of the work to be completed by others in order to complete the program on schedule. These critical items along with their completion dates are listed herein.

The following paragraph shall be added to the beginning of Article 105.08. “The Contractor shall identify such work items (including the critical items listed in the Contract and these Special Provisions) at the beginning of the contract and coordinate the sequence and timing for their execution and completion with the other Contractors through the Engineer. All of these work items shall be identified as separate line items in the Contractor’s proposed Construction Progress Schedule. Additional compensation or the extension of contract time will not be allowed for the progress of the work items affected by the lack of such coordination by the Contractor”.

The adjacent and/or overlapping Contracts will be (but not limited to):

- I-39 Reconstruction Contracts:
 - IDOT Contract 64G68 (Perryville over I-39 Bridge)
 - IDOT Contract 64B13 (System Interchange Paving and Bridges)
 - IDOT Contract 64S92 (I-39 Mainline Tree Removal)
 - IDOT Contract 64C24 (I-39 Mainline Paving and Bridges & Noise Wall)
 - IDOT Contract 64R72 (Kishwaukee Bridge and US 20/Mill Road Paving)
- Other Adjacent Contracts:
 - IDOT Contract 64R15 (FAP 525 (US 20) Hot-Mix Asphalt Resurfacing)
 - Tollway Project Wheeler/Aspen Road

No adjustments will be made for delay or suspension of the work due to the fault of the Contractor in coordinating project schedule, staging and work items with adjacent Contracts.

Some of the Contracts noted above may have detours implemented. The anticipated seasons or timeframe of the detours are listed below:

- 64G68
 - Perryville Road Closure/Detour is anticipated to be performed and completed in the 2023 Construction Season
- 64B13
 - Linden Road Closure/Detour is anticipated to be completed in the 2023 Construction Season
 - Mulford Road Closure/Detour is anticipated to be performed and completed in the 2024 Construction Season. The detour route will utilize Mulford Road, from I-39 to Harrison Avenue, Harrison Avenue from Mulford Road to Perryville Road, and Perryville Road from Harrison Avenue to Linden Road
- 64C24
 - No detours anticipated
- 64R72
 - Potential detour could utilize northbound entrance ramp movements from Harrison Avenue/US 20 to northbound I-39, southbound exit ramp movements from southbound I-39 to Harrison Avenue, and US 20/Harrison Avenue from the I-39 interchange to Mill Road. If utilized, the detours could be in place in the 2025 construction season.
- 64R15
 - No known detours
- 64S92
 - No known detours
- Tollway Project Wheeler/Aspen Road
 - No known detours

The list below indicates all such items of the work which have specific completion dates. It is essential that the Contractor responsible for the work complete these items on or before the date indicated so that other contracts may plan and execute their work accordingly.

Interim Completion Dates and Coordination with Adjacent Contract 64C24

The construction limits for Contract 64R71 and Contract 64C24 will overlap.

Per Special Provision for COMPLETION DATE PLUS WORKING DAYS, Contract 64R71 will be completed and open to traffic by **Friday, November 21, 2025** (plus an additional 30 Working Days for cleanup and punch list). Contract 64B13 is currently scheduled for a September 2024 Letting, with start of work anticipated to commence late in 2024. Therefore, it is anticipated that the 64R71 and 64C24 Contractors will overlap during the same time period.

Contract 64R71 shall complete all construction activities associated with the proposed Ramp D, and Ramp D shall be open to traffic by **Monday, June 30, 2025**. The construction items to be completed in Contract 64R71 per this specification prior to June 30, 2025 shall include, but not be limited to:

- All Ramp D pavement and shoulders from STA 400+00.00 to STA 412+00.00.
- All Ramp D temporary pavement from STA 412+00.00 to STA 416+33.00 to remain in place.
- All Ramp D Final pavement markings in place
- Installation of all drainage structures, storm sewer, pipes, and culverts along and under Ramp D from STA 400+00.00 to STA 412+00.00.
- All Clearing, Utility Removal, Tree Removal, Non-Special Waste Removal, Debris Removal, and general site grading required.
- All appropriate Erosion Control measures in place.
- All Construction equipment, materials and vehicles belonging to the Contract 64R71 Contractor shall be removed from the area southwest of the Ramp B terminus at STA 412+00.00.

The temporary pavement at Ramp B and Ramp D, on northbound and southbound I-39, on Harrison Avenue underneath the I-39 bridges, and on Harrison Avenue west of Mill Road at locations indicated in the plans shall remain in place for use by the Contract 64C24 Contractor for Maintenance of Traffic.

Two weeks prior to June 30, 2025, on a date specified by the Resident Engineers of both Contract 64R71 and Contract 64C24, the Resident Engineers and one representative from each Contractor shall conduct a joint inspection of the completed Contract 64R71 construction. The Resident Engineers shall jointly develop a punch list for items that the Contract 64R71 Contractor must complete, or remedy, prior to the Contract 64R71 Contractor vacation of the work area near the interface between the 64R71 and 64C24 Contracts. This punch list must be completed by the Contract 64R71 Contractor prior to June 30, 2025, and prior to the Contract 64C24 Contractor occupation of said work area.

Coordination with Adjacent Contract 64G68

The construction limits for Contract 64R71 and Contract 64G68 will not overlap and it is anticipated that this Contract will be completed in the 2023 Construction Season.

Coordination with Adjacent Contract 64B13

The construction limits for Contract 64R71 and Contract 64B13 will not overlap, however, both contracts will be under construction at the same time within the I-39 Reconstruction corridor. Regular coordination between the two contracts will be required in order to minimize/eliminate conflicts in traffic staging, and to maximize safety of both the traveling public and of the respective work zones.

The 64R71 Contractor is not expected to require access to, or to utilize in any way, the stockpiles from Contract 64B13 within the 64B13 contract limits. Any access to the 64B13 stockpile area by the 64R71 Contractor must be approved in advance by both respective Engineers.

The Contract is anticipated to be completed by the end of the 2024 Construction Season.

Coordination with Adjacent Contract 64S92

The construction limits for Contract 64R71 and Contract 64S92 may overlap, however, all of the tree removal work included in Contract 64S92 is expected to be on mainline I-39 south of the Harrison Avenue interchange and west of I-39.

Coordination between the two contracts will be required to minimize/eliminate conflicts in traffic staging, and to maximize safety of both the traveling public and of the respective work zones.

Coordination with Adjacent Contract 64R72

The construction limits for Contract 64R71 and Contract 64R72 will overlap, however, it is anticipated that construction Contract 64R72 will begin during the 2025 Construction Season. Regular coordination between the two contracts will be required in order to minimize/eliminate conflicts in traffic staging, and to maximize safety of both the traveling public and of the respective work zones.

Contract 64R71 shall adhere to the requirements of INTERIM COMPLETION DATE – WINTER SHUTDOWN to minimize conflicts at the work zone overlap at Harrison Avenue and Mill Road. It is unknown if Contract 64R71 will utilize staged construction or detours. Potential detours could utilize the northbound entrance ramp movements from Harrison Avenue/US 20 to northbound I-39, the southbound exit ramp movements from southbound I-39 to Harrison Avenue, and US 20/Harrison Avenue from the I-39 interchange to Mill Road. If utilized, the detours could be in place in the 2025 construction season.

Coordination with Adjacent Contract 64R15

The construction limits for Contract 64R71 and Contract 64R15 will not overlap, however, work zones may overlap. It is anticipated that Contract 64R15 will begin during the 2025 Construction Season. The 64R15 asphalt overlay work will be approximately 0.4 miles east of Mill Road. Regular coordination between the two contracts will be required in order to minimize/eliminate conflicts in traffic staging, and to maximize safety of both the traveling public and of the respective work zones.

Coordination with Adjacent Tollway/Aspen Road Contract

The construction limits for Contract 64R71 and the Tollway Contract are not anticipated to overlap. It is unknown when this contract is expected to start.

Shared Access and Work Area

When necessary for proper prosecution of work, each Contractor shall permit the other access through the overlapping construction areas and the use of any access or haul roads constructed by others.

When necessary for the proper prosecution of work, each Contractor shall permit the other to work within predetermined areas of overlapping construction work areas for a predetermined duration. The Contractor working within the adjacent overlapping construction work areas will be responsible for cleaning the work area upon completion and leaving the work area in a suitable condition, including application of temporary erosion control measures as required, to the satisfaction of both Engineers. Examples of work requiring occupation of overlapping work areas include (but are not limited to): Earth Excavation/ Grading, Landscaping, Maintenance of Erosion Control Items.

Any damages resulting from the shared use of access facilities or overlapping work area shall be repaired by the Contractor which caused the damage at his own expense and at no additional cost to the Contract.

Basis of Payment. All expenses incurred by the Contractor by reason of compliance with these requirements shall be considered as included in and completely covered by the contract unit prices for the various items included in the contract.

AVAILABILITY OF ELECTRONIC FILES

Effective 10/16 Revised 2/10/17

3D and 2D MicroStation and GEOPAK files of this project will be made available to the Contractor after contract award. This information will be provided upon request as MicroStation CADD files and Geopak coordinate geometry files ONLY. If data is required in other formats it will be your responsibility to make these conversions. Contractor shall coordinate obtaining electronic files through the Project Engineer. If there is a conflict between the electronic files and the printed contract plans and documents, the printed contract plans and documents shall take precedence over the electronic files. The Contractor shall accept all risk associated with using the electronic files and shall hold the Department harmless for any errors or omissions in the electronic files and the data contained therein. Errors or delays resulting from the use of the electronic files by the Contractor shall not result in an extension of time for any interim or final completion date or shall not be considered cause for additional compensation. The Contractor shall not use, share, or distribute these electronic files except for the purpose of constructing this contract. Any claims by third parties due to use or errors shall be the sole responsibility of the Contractor. The Contractor shall include this disclaimer with the transfer of these electronic files to any other parties and shall include appropriate language binding them to similar responsibilities.

CRITICAL PATH SCHEDULE

Effective: February 10, 1995

Revised: December 29, 2015

The construction of this project will be planned and recorded with a conventional Critical Path Method (CPM) as specified in Article 108.02 of the Standard Specifications and the following:

The Contractor is responsible for preparing the initial schedule in the form of an activity on arrow diagram which shall include activity description and duration, two copies shall be submitted to the Engineer at the preconstruction meeting. The construction time, as determined by the schedule shall not exceed the specified contract time. The schedule shall be updated the first of each month, when there is a delay in completion of any critical activity, or when the contract is modified causing additions, deletion or revision of activities required.

MAINTENANCE OF ROADWAYS

Effective: June 26, 2003

Beginning on the date that work begins on this project, the Contractor shall assume responsibility for normal maintenance of all existing roadways within the limits of the improvement. This normal maintenance shall include all repair work such as patching, intermittent resurfacing, signing repairs and shoulder work deemed necessary by the Engineer, but shall not include snow removal operations. Traffic control and protection for maintenance of roadways will be provided by the Contractor as required by the Engineer.

If items of work have not been provided in the contract, or otherwise specified for payment, such items, including the accompanying traffic control and protection required by the Engineer, will be paid for in accordance with Article 109.04 of the Standard Specifications.

PCC AUTOMATIC BATCHING EQUIPMENT

Effective: January 1, 2015

Revised: January 31, 2023

Portland cement concrete provided shall be produced from batch plants that conform to the requirements of Article 1103.03 (a) and (b) of the Standard Specifications for Road and Bridge Construction. Semi-automatic batching will not be allowed.

Plants shall have computerized batching interfaced with a printer. IDOT Producer Number, IDOT Design Number, Concrete Material Code, batch weights, aggregate mixtures, water added, amount of each admixture or additive, and percent variance from design shall be printed for each batch. Tickets shall state the actual water-cement ratio as batched, and the amount of water that can be added to the batch without exceeding the maximum water-cement ratio. Truck delivery tickets are still required as per Article 1020.11(a)(7) of the Standard Specifications.

PCC QC/QA ELECTRONIC REPORTS SUBMITTAL

Effective: January 1, 2015

Revised: January 31, 2023

The Contractor's QC personnel shall be responsible for electronically submitting the following reports to the Department: PRO and IND data for BMRP MI654 "Concrete Air, Slump, and Quantity,"; PRO data for BMRP MI655 "P.C. Concrete Strength," and PRO data for BMRP MI504 "Aggregate Gradation" reports to the Department. The format for the electronic submittals shall be the QMP package reporting program, which will be provided by the Department. Microsoft Excel 2007 or newer and Microsoft Outlook is required for this program which shall be provided by the Contractor.

TRAFFIC CONTROL PLAN

Effective: January 14, 1999

Revised: January 13, 2017

Standards:

701001	701006	701011	701101	701106	701301
701311	701400	701401	701411	701416	701422
701426	701427	701428	701451	701456	701501
701601	701701	701801	701901	704001	

Details:

- Staging Plans
- District Standard WORK ZONE SIGN DETAILS (DIST STD. 34.1)
- District Standard TRAFFIC CONTROL TYPICAL WEAVE (DIST STD 39.1)
- District Standard TRAFFIC CONTROL AND PROTECTION AT TURN BAYS (TO REMAIN OPEN TO TRAFFIC) (DIST STD 94.2)

Signs:

When covering existing Department signs, no tape shall be used on the reflective portion of the sign. Contact the District sign shop for covering techniques.

Any plates or direct applied sheeting used to alter signs shall have the same sheeting as the base sign.

No more than one kind of alteration shall be used to alter a sign.

Any post stubs without a sign in place and visible shall have a reflector placed on each post.

Devices:

A minimum of 3 drums spaced at 4 feet shall be placed at each return when the sideroad is open.

Flaggers:

Flaggers shall comply with all requirements and signaling methods contained in the Department's "Traffic Control Field Manual" current at the time of letting. The flagger equipment listed for flaggers employed by the Illinois Department of Transportation shall apply to all flaggers

In addition to the flaggers shown on applicable standards, on major sideroads, flaggers shall be required on all legs of the intersection. Major sideroads for this project shall be Mall Drive, and Mill Road.

In addition to the flaggers shown on applicable standards, a flagger shall be required on high volume commercial entrances listed below. High volume commercial entrances for this project shall be Collier RV.

When the mainline flagger is within 200 feet of an intersection, the sideroad flagger shall be required.

When the road is closed to through traffic and it is necessary to provide access for local traffic, all flaggers as shown on the applicable standards will be required. No reduction in the number of flaggers shall be allowed.

Pavement Markings:

All temporary pavement markings that will be operational during the winter months (December through March) shall be Modified Urethane.

Short term pavement markings on a milled surface shall be paint.

Temporary pavement markings shall not be included in the cost of the standard rather it shall be paid for separately at the contract unit prices of specified temporary pavement marking items.

Changeable Message Signs:

A changeable message sign shall be in place for a minimum of 2 weeks (14 calendar days) prior to the start of work, for a stage switch, for a major change in traffic patterns, and prior to activation of new traffic signals at the ramp terminal starting the day the signals are turned on.

A changeable message sign shall be in place for a minimum of 1 week (7 calendar days) prior to nighttime full closures for overhead sign truss placement and sign installation or removal.

This work will be paid for at the Contract Unit Price per Calendar Day for Changeable Message Sign.

Highway Standards Application:

TRAFFIC CONTROL AND PROTECTION, STANDARD 701401 (SPECIAL)

This work consists of setting up traffic control in accordance with Section 701 of the Standard Specification for the purpose of removing or setting overhead signs on roads open to traffic.

Up to two lanes and a ramp lane in each direction of travel on I-39 may be closed up to twenty (20) minutes to remove or set sign trusses and overhead sign panels. This shall be done by closing one lane in each direction according to Standards 701400 and 701401. The second lane shall be closed by denying access to the lane for up to a twenty (20) minute period by flagger. At the end of the twenty minute period, the second shall be opened to traffic and all queued traffic shall be cleared prior to closing the second lane again. Ramps shall be closed according to Standard 701451

This work shall be completed during nighttime hours, 11:00 PM Monday to 4:00 AM Friday (11:00 PM to 4:00 AM daily). Single Lane closures can begin at 10:00 PM, but full closure shall not begin before 11:00 PM. Traffic control set up shall not begin prior to 9 p.m. on any day and shall be completely removed by 6:00 AM the following morning. No lane closures shall be allowed on Friday, Saturday, and Sunday evenings. During legal holidays, section 107 of the Standard Specifications shall apply.

Traffic control devices shall be removed from the traffic lane and all lanes shall be opened to traffic thirty (30) minutes after bridge beam removal and/or setting operations cease, or defined by work restriction hours, whichever comes first.

The Contractor shall contact the District 2 Electrical Engineer, Scott Kullerstrand at Ph. (815) 284-5468 two weeks before any closure on I-39/US 20 so that messages can be put on the permanent message overhead message boards.

One additional portable changeable message board will be required for each direction of travel affected during all nightly closures.

The barricades shown in Standard 701401 shall not encroach on the lane open to live traffic at any time.

The Contractor shall be liable if they fail to completely open and keep open all traffic lanes on I-39 in accordance with the limitations specified. The Contractor shall be liable to the Department in the amount of \$500 for each lane blocked as a monetary deduction damages for each and every fifteen (15) minute interval, or portion thereof, that a lane is blocked outside the allowable time limitations. Such deduction may be deducted by the Department from any monies due to the Contractor. These deductions shall apply during the contract time and during any extensions of the contract time.

All traffic control signing, barricades or drums and appurtenances, vertical panels, and flaggers described herein shall be paid for at the contract unit price per Lump Sum for TRAFFIC CONTROL AND PROTECTION, STANDARD 701401 (SPECIAL).

Traffic Control and Protection Standard 701416:

This work shall be done according to Section 701 of the Standard Specifications and the Typical Application of Traffic Control Devices for Highway Construction, Standard 701416, Harrison Avenue/US 20 staging Plans and as specified herein. Lane closures will not be implemented except during allowable lane closure hours per Work Restrictions, but lane shifts and narrow lanes will be installed. Harrison Avenue/US 20 shall be modified as shown in the Plans for Stages 1 and 2. Each installation includes both directions of travel.

When the vertical panels shown on standard 701416 are not installed due to guardrail or existing parapet walls, the reflectors shown on standard 782006 shall be installed per the spacing shown on Standard 704001. The reflectors on guardrail and parapet walls shall installed for both directions of traffic.

All traffic control signing, barricades or drums and appurtenances, vertical panels, reflectors, and temporary relocation of existing signs as shown in the Plans and described herein shall be included in the contract unit price per Each location per stage, which shall include both directions of travel, for TRAFFIC CONTROL AND PROTECTION, STANDARD 701416.

TRAFFIC CONTROL AND PROTECTION, STANDARD 701422 (SPECIAL)

This work consists of setting up traffic control in accordance with Section 701 of the Standard Specification for the purpose of removing or setting overhead signs on roads open to traffic.

Up to two lanes in each direction of travel on Harrison Avenue/US 20 may be closed up to twenty (20) minutes to remove or set sign trusses and overhead sign panels. This shall be done by closing one lane in each direction according to Standard 701422. The second lane shall be closed by denying access to the lane for up to a twenty (20) minute period by flagger. At the end of the twenty minute period, the second shall be opened to traffic and all queued traffic shall be cleared prior to closing the second lane again. Ramps shall be closed according to Standard 701451

This work shall be completed during nighttime hours, 10:00 PM Monday to 5:00 AM Friday (10:00 PM to 5:00 AM daily). Single Lane closures can begin at 9:00 PM, but full closure shall not begin before 10:00 PM. Traffic control set up shall not begin prior to 9:00 p.m. on any day and shall be completely removed by 6:00 AM the following morning. No lane closures shall be allowed on Friday, Saturday, and Sunday evenings. During legal holidays, section 107 of the Standard Specifications shall apply.

Traffic control devices shall be removed from the traffic lane and all lanes shall be opened to traffic thirty (30) minutes after bridge beam removal and/or setting operations cease, or defined by work restriction hours, whichever comes first.

One additional portable changeable message board will be required for each direction of travel affected during all nightly closures.

The barricades shown in Standard 701422 shall not encroach on the lane open to live traffic at any time.

The Contractor shall be liable if they fail to completely open and keep open all traffic lanes on Harrison Avenue/US 20 in accordance with the limitations specified. The Contractor shall be liable

to the Department in the amount of \$500 for each lane blocked as a monetary deduction damages for each and every fifteen (15) minute interval, or portion thereof, that a lane is blocked outside the allowable time limitations. Such deduction may be deducted by the Department from any monies due to the Contractor. These deductions shall apply during the contract time and during any extensions of the contract time.

All traffic control signing, barricades or drums and appurtenances, vertical panels, and flaggers described herein shall be paid for at the contract unit price per Lump Sum for TRAFFIC CONTROL AND PROTECTION, STANDARD 701422 (SPECIAL).

Traffic Control and Protection Standard 701451: This work shall be done according to Section 701 of the Standard Specifications and the Typical Application of Traffic Control Devices for Highway Construction, Standard 701451, and as specified herein.

The "CLOSED" plates installed on overhead signs, all "EXIT CLOSED" signs, ramp advisory speed limit signs, and "RAMP CLOSED AHEAD" signs shown in the plans shall be included.

Ramp closures shall only be allowed during the stages shown in the plans.

This work shall be included in the contract unit price per Lump Sum for TRAFFIC CONTROL AND PROTECTION STANDARD 701451.

Traffic Control and Protection Standard 701701: This work shall be done according to Section 701 of the Standard Specifications and the Typical Application of Traffic Control Devices for Highway Construction, Standard 701701, and as specified herein.

The "left" leg of the intersection shown on this standard also applies when the right turn lane is closed. When the right turn lane is closed, "RIGHT TURN LANE CLOSED AHEAD" shall be substituted for the LEFT TURN LANE CLOSED AHEAD" and the set up would be a mirror image to what is shown.

Lane closures on Harrison Avenue/US 20 and on Mall Drive shall only be allowed during the hours listed in WORK RESTRICTIONS.

This work shall be included in the contract unit price per Lump Sum for TRAFFIC CONTROL AND PROTECTION STANDARD 701701.

Traffic Control and Protection Standard 701801: This work shall be done according to Standard 701801, staging details, and Section 701 of the Standard Specification and as contained herein. The Shared Use Path (SUP) closure will be allowed only during connection of the existing path to the proposed path at the western limit. Closure shall be limited to 7 calendar days.

This work shall be included in the contract unit price per Lump Sum for TRAFFIC CONTROL AND PROTECTION, STANDARD 701801.

Traffic Control and Protection Standard 701411:

This work shall be done according to Section 701 of the Standard Specifications and Standard 701411 and as modified in the plans for Stage 1 Ramps CA, CB and AD; Stage 1B Ramps CA, CB, and AD; Stage 2 Ramps BC, DA, and DB; Stage 2B Ramps BC, DA, and DB; Stage 4 Ramp BC; Stage 4B Ramp C.

Method of Measurement. Each ramp will be measured as a separate location and will be considered as one each for payment, regardless of the number of installations at that ramp.

All traffic control signing including all ground mounted shield assemblies, temporary relocation of existing signs, barricades or drums and appurtenances, vertical panels, and reflectors shown in the Plans and described herein shall be included in the contract unit price per Each for TRAFFIC CONTROL AND PROTECTION, STANDARD 701411.

MAINTENANCE OF TRAFFIC (ILLINOIS TOLLWAY)

Lane closures on eastbound I-90 shall be according to the plans for Maintenance of Traffic Details Illinois Tollway.

There shall be no I-90 lane closures allowed at the following times:

- Sunday: 10:00 am to 8:00 pm
- Monday through Friday: 6:00 am to 7:00 pm
- Saturday: 9:00 am to 6:00 pm

Any signing on I-90 shall have a SOUTH (M3-3BL-3618) and an I-39 shield (M1-1-36) mounted below it. Message boards shall have SBND I-39 as an extra screen in any message.

This work shall be included in the contract unit price per Lump Sum for MAINTENANCE OF TRAFFIC (ILLINOIS TOLLWAY)

Interstates and multi-lane divided highways where the existing speed is greater than 45 mph: The Contractor shall equip all machinery and vehicles with flashing amber lights, installed so the illumination is visible from all directions.

The median crossover will generally not be available for Contractor use. It may be used only when both lanes adjacent to the median are closed. Under no condition shall left turn lanes be made to cross the median from lanes open to traffic. Where interchanges are not available, the Contractor shall only be allowed to turn around where left turn lanes are present.

Parking of personal vehicles within the right-of-way will be strictly prohibited. Parking of construction equipment within the right-of-way will be permitted only at locations approved by the Engineer.

* * * * *

TEMPORARY SIGNALS: The Contractor will be required to have someone available at all times to receive phone calls during non-work hours and who is able to reach the job site within one hour of being called. This person will be able to repair the temporary signals or will be able to have flaggers on site within another hour to flag traffic until the signals are again in operation. Failure to have a person on site within an hour after the initial call out will result in the Contractor being charged a monetary deduction by the Department of One Thousand Dollars (\$1,000). Failure to have traffic restored either with repaired signals or with flaggers within two hours after the initial call out will result in the Contractor being charged monetary deduction by the Department of One Thousand Dollars (\$1,000) per hour until traffic is restored. The Contractor may use a traffic control subcontractor for the first call, however this does not relieve the prime Contractor from having a person on call.

Traffic Signal Work: No traffic signal work shall begin until all of the traffic signal hardware is on the job site. The existing traffic signal system shall remain in operation during the construction work. The work shall be scheduled so that a minimum of two signal indications for each phase remains in operation. No signal indication shall be absent for more than seven calendar days.

The Contractor will be allowed to shut down the existing signal system not to exceed 8 hours to replace the existing controller and cabinet. During this shutdown, the intersection will operate as a 4-way "Stop".

* * * * *

Maintenance of Traffic:

The Contractor shall notify the Village of Cherry Valley emergency response agencies (fire, ambulance, police), school bus companies and the Department of Transportation (Bureau of Project Implementation) regarding any changes in traffic control.

The Contractor shall notify the Village of Cherry Valley for any sideroad closure or opening.

The Contractor shall submit a maintenance of local traffic plan to the Engineer at the preconstruction meeting telling how local access will be maintained at each access location. It will show which locations will be completely closed, and which locations will be constructed utilizing Traffic Control Standard 701206 and/or barricades. This traffic plan will need to be approved by the Engineer before the roadway is closed to traffic.

The Contractor shall be responsible for providing an article and a map to the news media describing the work being performed and stages closed to traffic when there are changes to the traffic control configuration.

Work Restrictions:

The Contractor shall have all lanes open on I-39 and Harrison Avenue/US 20 as shown in the Plans or per TRAFFIC CONTROL AND PROTECTION, STANDARD 701401 (SPECIAL) unless prior approval is obtained from the Resident Engineer.

There shall be no I-39 lane closures allowed at the following times:

- Sunday: 10:00 am to 8:00 pm
- Monday through Friday: 6:00 am to 7:00 pm
- Saturday: 9:00 am to 6:00 pm

There shall be no Harrison Avenue/US 20 lane closures allowed at the following times:

- Sunday: 10:00 am to 8:00 pm
- Monday through Friday: 7:00 am to 10:00 am or 3:00 pm to 7:00 pm
- Saturday: 9:00 am to 6:00 pm

All ramp traffic shall be maintained as shown in the Staging plans.

Setting and removal of traffic control, setting and removing of temporary concrete barrier, and placement and removal of temporary pavement markings must follow the lane closure restrictions.

Additional restrictions due to local events or inclement weather may also be imposed.

Any additional lane closures on other than what is shown on the Plans shall be approved by Traffic Operations in advance. Work hour restrictions may be impacted.

Winter Shutdown

Winter Shutdown Requirements:

- Traffic will be placed in the configuration shown in the Winter Stage Traffic Control Plans, including all traffic control devices and temporary concrete barrier. The pavement riding surface for Winter Shutdown for Harrison Avenue/US20 shall be the proposed surface and temporary pavement on Harrison Avenue/US 20, and the existing cloverleaf ramps.
- The shoulder widths shown in the Plans for the Winter Stage shall be provided during the winter shutdown
- Failure to complete the required segments of roadway to provide the lane configurations and shoulder widths shown in the Winter Stage prior to initiation of a winter shutdown will be subject to the Special Provision for FAILURE TO COMPLETE THE WORK ON TIME-INTERIM COMPLETION DATES AND WINTER SHUTDOWN.
- Lane drop-offs will not be allowed for winter shutdown.

- Temporary Pavement Marking
 - Any pavement markings shall be replaced to the proposed configuration with Temporary pavement markings prior to Winter Shutdown. Short term pavement marking will not be allowed to remain for Winter Shutdown.
- Contractor equipment shall not be left in the clear zone or within any restricted areas as identified by the Engineer within the project limits over the Winter Shutdown.
- Contractor shall be responsible for all necessary maintenance and upkeep of all temporary pavement markings and associated traffic control and temporary concrete barrier during winter shutdown months.
- Contractor shall be responsible for snow plowing and removal around all traffic control devices in place over the Winter Shutdown. IDOT maintenance forces will plow active traffic lanes, but not around traffic control devices

No additional compensation will be provided to comply with these winter shutdown restrictions.

MAXIMUM DROP-OFFS BETWEEN ADJACENT LANES

(Effective April 21, 2023)

When the Contractor's operations cause a difference in elevation greater than 1.5 in. (38 mm) for a vertical milled face or 2 in. (50 mm) for a lift of HMA resurfacing between adjacent lanes, the lane shall remain closed. The Contractor shall adjust his milling and paving operations so that all traffic lanes are open at the end of each work day.

To meet the above requirement, the Contractor shall:

Place the binder lift immediately following the milling operation before opening the lane to traffic
or

Place a temporary wedge after the milling operations (minimum 1V:3H slope) or

Mill a sloped wedge between lanes (minimum 1V:3H slope).

When the difference in elevation between adjacent open traffic lanes is greater than 1 in. (25 mm) and less than or equal to 1.5 in. (38 mm) for a vertical milled face or 2 in. (50 mm) for an HMA lift, "UNEVEN LANES" signs (W8-11(FO)) shall be erected at 1-mile (1.6 km) intervals.

The above requirements were developed based on IDOT Safety Engineering Policy Memorandum 4-21. Any changes to the proposed lift thicknesses, milling depths, or sequence of operations that change drop-offs at the centerline or edge of pavement must follow this policy and be approved by the Engineer.

This work will not be paid for separately but shall be included in the cost of the applicable HMA surface removal pay items.

TEMPORARY LINEAR DELINEATOR PANELS

Two (2) panels shall be placed on each section of barrier wall 6 inches down from the top. The panels shall be alternating white and fluorescent orange and have a spacing of 18 inches apart and centered horizontally on each section of barrier wall. Each panel shall not be less than 34 inches in length and 6 inches in width. The panels shall be constructed of cube-corner retroreflective material in standard highway colors permanently bonded to an aluminum substrate. The lateral edges of each panel shall be hemmed. The panel assembly shall have a repeating raised lateral ridge every 2.25 inches. Each ridge shall be 0.34 in. high with a 45° profile and a 0.28 in. radius top. Each panel shall be attached/adhered to as per the manufacturer specifications and/or recommendations.

Daytime color requirements shall be determined from measurement of the retroreflective sheeting applied to aluminum test panels. Daytime color shall be measured instrumentally using a spectrophotometer employing annular 45/0 (or equivalent 0/45) illuminating and viewing geometry. Measurements shall be made in accordance with ASTM E1164 for ordinary colors or ASTM E2153 for fluorescent colors. Chromaticity coordinates shall be calculated for CIE Illuminant D65 and the CIE 1931 (2o) Standard Colorimetric Observer in accordance with ASTM E308 for ordinary colors or ASTM E2152 for fluorescent colors.

Chromaticity Limits for White

	x	y	x	y	x	y	x	y	Limit Y (%)	
									Min	Max
White	0.303	0.287	0.368	0.353	0.340	0.380	0.274	0.16	40	-

Chromaticity Limits for Fluorescent Orange

	x	y	x	y	x	y	x	y	Total Luminance Factor Y (%)	
									Min	Max
Fluor. Orange	0.595	0.351	0.645	0.355	0.583	0.416	0.542	0.403	30	

The Temporary Linear Delineation Panels will not be paid for separately but shall be considered incidental to Temporary Concrete Barrier.

WORK ZONE PAVEMENT MARKING AND REMOVAL

Effective: December 29, 2008

Revised: October 5, 2021

This work shall consist of installing and removing temporary pavement marking according to Section 703 and 783 of the Standard Specifications and the following:

All temporary paint on the final wearing surface shall be removed according to Article 1101.12 Water Blaster with Vacuum Recovery and the applicable portions of Section 783 of the Standard Specifications and as described herein.

Add the following paragraph to Article 1101.12 of the Standard Specifications.

“For the high pressure water spray, the pressure at the nozzle shall be approximately 25,000 psi with maximum flow rate of 15 gal/min. The nozzle shall be in close proximity to the pavement surface.”

MOWING

Effective: January 1, 2002

Revised: April 12, 2016

This work consists of mowing all Seeding Class 1A and Class 2A at the completion of the project or before winter shut down. The vegetation must be at least 6” long before mowing. The vegetation shall be mowed to obtain a height of not more than 3 inches. All debris must be cleared from the right-of-way immediately after the mowing.

This work will be paid for at the contract unit price per Acre for MOWING.

ASPHALT PAVEMENT CONSTRUCTION (ILLINOIS TOLLWAY)

This Special Provision shall only be utilized for asphalt shoulders placed between I-39 SB stations 2747+00.00 and 2751+53.11.

Effective: July 25, 2019

Revised: January 30, 2023

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- 1. Description.** This Special Provision establishes and describes the responsibilities of the Contractor in producing and constructing asphalt pavements. Any verbiage relating to “Hot Mix Asphalt” Mixtures in the referenced documents is considered interchangeable with the Tollway’s use of “Warm Mix Asphalt” (WMA) Mixtures, unless specifically noted herein.
 - 2. References.** The following documents are referenced in this Special Provision. References to Articles are to the IDOT Standard Specifications. Work shall be according to Sections 406, 407, 1102, 1030 and 1032 of the Standard Specifications except as modified herein.
 - 2.1. Illinois Department of Transportation (IDOT) – Current Standard Specifications for Road and Bridge Construction
 - 2.2. Illinois Department of Transportation (IDOT) – Supplemental Specifications and Recurring Special Provisions.
 - 2.3. Illinois Department of Transportation (IDOT) – Manual of Test Procedures for Materials
 - 2.4. Illinois Tollway – Illinois Tollway Manual of Test Procedures (referred to as “Tollway-Modified” throughout this document)
 - 2.5. Illinois Tollway Special Provision for Asphalt Mixtures
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3. Quality Control/ Quality Assurance (QC/QA). QC/QA shall be in accordance with Articles 1030.06 and 1030.09 of the Standard Specifications, except as modified herein.

3.1. Quality Control (QC) Addendum for Warm Mix Asphalt (WMA) Production.

Replace the first 5 paragraphs of Article 1030.06 with the following:

“Quality Control / Quality Assurance (QC/QA) shall be used for each asphalt mixture.

The following shall apply to QC/QA.”

Replace the third sentence of the first paragraph of Article 1030.06(b) with the following.

“Job-specific QC Addenda to the Annual QC Plan must be submitted using the Tollway Form A-81 "Quality Control (QC) Addendum for Warm Mix Asphalt (WMA) Production”.”

Delete the first sentence of Article 1030.09.

Replace Footnote 4/ in Article 1030.09(a)(2) with the following:

“4/ If the required tonnage of any mixture for a single pay item is less than 1000 tons in total, Footnote 3/ shall not apply, unless otherwise waived by the Engineer. If waived, the mixture shall be produced using a mix design that has been verified as specified and validated by the Tollway’s recent acceptable field test data. A Hot-Mix Asphalt Level II Technician shall oversee all quality control operations for the mixture.”

Replace Articles 1030.09 (g) and 1030.09(h) with the following:

“(g) Quality Assurance by the Engineer. The Engineer will conduct quality assurance tests on split samples taken by the Contractor for quality control testing. In addition, the Engineer will witness the sampling and splitting of these samples a minimum of twice a month and will immediately retain the samples for quality assurance testing.

The overall testing frequency will be performed over the entire range of Contractor samples and will be equal to or greater than ten percent for gradations and equal to or greater than 20 percent for asphalt binder content, bulk specific gravity, maximum specific gravity and field density. The Engineer may select any or all split samples for assurance testing. The Engineer will initiate quality assurance testing during mixture field verification. These tests may be performed immediately or anytime up to ten working days after sampling. The test results will be made available to the Contractor as soon as they become available.

The Contractor's density gauge/core correlation will be verified utilizing the Engineer's density gauges.

The Engineer may witness the sampling and testing being performed by the Contractor. The Engineer will document all witnessed samples and tests.

The Engineer will promptly notify the Contractor, both verbally and in writing, of observed deficiencies. If the Engineer observes that the sampling and quality control tests are not

being performed according to the applicable test procedures, the Engineer may stop production until corrective action is taken.

The Engineer may elect to obtain samples for testing, separate from the Contractor's quality control process, to verify specification compliance. No more than 20 cores per day will be required by the Engineer for the purpose acceptance and/or comparison with density gauge measurements. The cost of this work will not be paid for separately but shall be considered as included in the unit price bid for the HMA item involved. Differences between the Contractor's and the Engineer's split sample test results will be considered acceptable if within the following limits.

Test Parameter	Acceptable Limits of Precision
% Passing: ^{1/}	
1/2 in. (12.5 mm)	5.0 %
No. 4 (4.75 mm)	5.0 %
No. 8 (2.36 mm)	3.0 %
No. 30 (600 µm)	2.0 %
No. 200 (75 µm)	2.2 %
Asphalt Binder Content	0.3 %
Maximum Specific Gravity of Mixture	0.026
Bulk Specific Gravity	0.030
VMA	1.4 %
Density (% Compaction)	1.0 % (Correlated)

^{1/} Based on washed ignition.

The Tollway may run extractions for assurance, when deemed necessary by the Engineer.

In the event comparison of the required plant test results is outside the above acceptable limits of precision, Tollway split or independent samples fail the control limits, a Tollway extraction indicates non-compliance, or a continual trend of difference between Contractor and Tollway test results is identified, the Engineer will immediately investigate. The Engineer may suspend production as stated in Article 108.07 of the Standard Specifications, while the investigation is in progress. The investigation may include testing by the Engineer of any remaining split samples or a comparison of split sample test results on the HMA currently being produced. The investigation may also include review and observation of the Contractor's technician performance, testing procedure, and equipment.

If a problem is identified with the mix, the Contractor shall take immediate corrective action. After corrective action, both the Contractor and the Engineer shall immediately resample and retest according to Article 1030.05(d)(6).

In the event comparison of the required field test results (densities) are outside the above acceptable limits of precision, Tollway split or independent samples fail the density limits, or a continual trend of difference between Contractor and Tollway test results is identified, the Engineer will immediately investigate. The investigation will include testing by the

Engineer of any remaining random density locations. The Engineer may establish additional locations for testing by both the Contractor and the Tollway to provide further comparison results. The investigation shall also include review and observation of the Density Tester performance, testing procedure, and equipment. The original correlation and/or comparison data, for both gauges, shall be reviewed as part of the investigation process. If the problem continues, the Engineer may require a new correlation be performed.

Warm Mix Asphalt (WMA) Verification Testing: Tollway Materials will conduct periodic WMA verification testing to determine compliance with specification requirements. Verification testing will consist of WMA mixture and/or field density testing. WMA mixtures will be sampled according to the Tollway Test Procedure 015 "Warm Mix Asphalt Sampling from the Paver Auger." Density will be determined by correlated density gauge or cores. Verification tests will be within the following tolerances from the Adjusted Job Mix Formula:

Parameter	Precision
Percent Passing #200 sieve	± 2.0 %
Asphalt Binder Content (Dense Graded mixtures)	± 0.4 %
Asphalt Binder Content (SMA mixtures)	± 0.3 %
Air Voids	± 1.5%
Field VMA	-1.0 to + 2.0 percent*
Density	Passing

*- compared to mix design minimum

In the event the verification test exceeds these tolerances, an investigation will be conducted by Tollway Materials, the CM, and Contractor to determine the causes and possible solutions."

- 3.2. Control Limits.** Add the following category to the table in Article 1030.09(c) of the Standard Specifications.

"Tollway Table 1 – Asphalt Stabilized Subbase Control Limits

Parameter	Individual Test
1/2 in. (12.5 mm)	± 15 %
No. 4 (4.75 mm)	± 10 %
No. 200 (75 µm)	± 2.5 %
Asphalt Content	± 0.5 %
Air Voids	± 1.2 % (of design)
VMA	-0.7%

- 4. Asphalt Plant.** The asphalt plant shall be calibrated and approved by IDOT or the Illinois Tollway before the production of asphalt mixtures. The type of plant used to produce asphalt mixtures shall meet the requirements of Article 1102.01 of the Standard Specifications, except were modified herein.

- 4.1. Dust Collection. Add the following to the first paragraph of Article 1102.01(a)(4) of the Standard Specifications.

“Positive dust control must be used.”

IL-4.75 Dust Collection – Add the following to Article 1102.01(a)(4)(a) of the Standard Specifications.

“5. Plant modifications may be required to accommodate the addition of higher percentages of mineral filler as required by the JMF.

6. Only metered bag house dust may be returned directly back to the mix. Any additional minus No. 200 (75 μ m) material needed to produce the IL-4.75 shall be mineral filler.”

- 4.2. Hot-Mix Silos and Surge Bins. Replace the last paragraph of Article 1102.01(a)(5) of the Standard Specifications with the following.

“IL-4.75 mixtures containing steel slag sand or aggregate having absorptions \geq 2.5 percent shall have a silo storage plus haul time of not less than 1.5 hours.

Storage silos or surge bins must be able to hold a minimum of 200 tons of warm mix asphalt. Surge bins or silos are required to contain a batching device to charge the silo or surge bin and prevent the incoming WMA from forming a conical pile within the silo or surge bin. All SMA mixtures shall have a silo storage plus haul time of not less than 1.0 hour. Silo storage plus haul time of all SMA mixture types shall not exceed 6.0 hours.”

- 4.3. Storage Tanks for Asphalt Binders. Add the following paragraphs to Article 1102.01(a)(6) of the Standard Specifications.

“SBS/SBR. SBS/SRB PG 76-22, SBS PG 70-22, SBS PG 70-28, or SBS PG 64-34 binder shall be shipped, maintained, and stored at the mix plant according to the manufacturer’s requirements. Polymer modified asphalt binder shall be placed in an empty tank and not blended with other asphalt binders.

Terminal Blend Ground Tire Rubber (GTR). A dedicated storage tank for “terminal blended GTR” shall be required at the hot mix plant. The GTR binder shall be placed in an empty tank and not blended with other asphalt cements. This tank shall be equipped with a mechanical agitator, capable of providing continuous mixing and/or recirculation of the asphalt-rubber blend. This tank shall be heated and capable of maintaining the temperature of the homogeneous blend of asphalt cement and GTR at 325°F to 375°F for a minimum of 45 minutes. Terminal Blended GTR modified asphalt may be stored at the asphalt production facility for up to 30 days at 300°F to 350°F with continuous mixing.”

- 4.4. Equipment for Weighing HMA. Add the following to Article 1102.01(a)(7).

“The printouts shall be maintained in a file at the plant for a minimum of one year or as directed by the Engineer and shall be made available upon request. The printing system will be inspected by the Engineer prior to production and verified at the beginning of each construction season thereafter.”

- 4.5. Equipment for FRAP/RAP/RAS. Replace the last two sentences Article 1102.01(a)(9) of the Standard Specifications with the following.

“To remove or reduce oversized material, a scalping screen, crushing unit, or comparable sizing device approved by Tollway Materials shall be used in the RAP/FRAP/RAS feed system to remove or reduce oversized material. If material passing the sizing device adversely affects the mix production or quality of the mix, the sizing device shall be set at a size specified by Tollway Materials.

RAS shall be incorporated into the asphalt mixture either by a separate weight depletion system or by using the RAP weigh belt. Either feed system shall be interlocked with the aggregate feed or weigh system to maintain correct proportions for all rates of production and batch sizes. While an auger-feed system is preferred, any system must provide a consistent, even flow of material and be approved by the Illinois Tollway. The portion of RAS shall be controlled accurately to within ± 0.5 percent of the amount of RAS utilized. When using the weight depletion system, flow indicators or sensing devices shall be provided and interlocked with the plant controls such that mixture production is halted when RAS flow is interrupted.

If the RAP/FRAP/RAS control tolerances or QC/QA test results require corrective action, the Contractor shall cease production of the mixture containing RAP/FRAP/RAS and either switch to the virgin aggregate design or submit a new RAP/FRAP/RAS design.”

- 4.6. Loose Fiber. In Article 1102.01(a)(10) of the Standard Specifications, replace “Stabilizing Additive” with “Loose Fiber” and add the following to the first paragraph of Article 1102.01(a)(10) of the Standard Specifications.

“When new equipment is provided for adding fibers into the mix, a representative from supplier/manufacturer of the equipment shall be present for calibration and first day of production (test strip). The Contractor shall notify Tollway Materials of Loose Fiber calibrations, and Tollway Materials shall be afforded the opportunity to witness calibrations.”

Add the following to Article 1102.01(a)(10)a of the Standard Specifications.

“The batch size shall not exceed 75% of pugmill size as rated by IDOT. The fiber shall be added to the aggregate in the weigh hopper or as approved and directed by Tollway Materials. The fibers are to be uniformly distributed prior to the injection of asphalt cement into the mixes.”

Replace the last sentence of Article 1102.01(a)(10)b of the Standard Specifications with the following.

“The fiber shall be added to the aggregate and uniformly dispersed prior to the injection of asphalt cement.”

- 4.7. Asphalt Additives and Modifiers. Add the following to the end of Article 1102.01(a) of the Standard Specifications.

“(11) WMA Additives. When a mix is produced using an approved warm mix asphalt technology, the asphalt mixing plant shall be modified as required by the additive or

process manufacturer to introduce the technology and produce an asphalt mixture meeting the volumetric properties specified in the Illinois Tollway Special Provision for Asphalt Mixtures. Plant modifications may include additional plant instrumentation, the installation of asphalt binder foaming systems and/or warm mix additive delivery systems, tuning the plant burner and adjusting the flights in order to operate at lower production temperatures and/or reduced tonnage.

All metering devices will meet the current IDOT requirement for liquid additives, except they shall be capable of controlling the introduction of additive into the asphalt binder within ± 2.0 percent of the amount specified or required. Document the integration of plant controls and interlocks when using warm mix additive metering devices. The Contractor shall notify Tollway Materials of WMA Additive calibrations, and Tollway Materials shall be afforded the opportunity to witness calibrations.

(12) Terminal Blend Ground Tire Rubber. The use of GTR modified asphalt may require additional plant modifications approved by Tollway Materials.

(13) Dry Process GTR. Shall be controlled with a feeder system using a proportioning device that is accurate to within ± 3 percent of the amount required. The system shall automatically adjust the feed rate to maintain the material within this tolerance at all times and shall have a convenient and accurate means of calibration. The system shall provide in-process monitoring, consisting of either a digital display of output or a printout of feed rate, in pounds per minute, with data recorded, to verify feed rate. The supply system shall report the feed in 1 lb. increments using load cells that will enable the user to monitor the depletion of the GTR. Monitoring the system volumetrically will not be allowed. The feeder shall interlock with the aggregate weigh system and asphalt binder pump to maintain the correct proportions at all production rates.

Flow indicators or sensing devices for the system shall be interlocked with the plant controls to interrupt the mixture production if the GTR introduction output rate is not within the ± 3 percent tolerance given above. This interlock will immediately notify the operator if the targeted rate exceeds introduction tolerances. All plant production will cease if the introduction rate is not brought back within tolerance after 30 seconds. When the interlock system interrupts production and the plant has to be restarted, upon restarting operations; the modifier system shall run until a uniform feed can be observed on the output display. All mix produced prior to obtaining a uniform feed shall be rejected.

With a drum mixing plant, introduce the dry process GTR prior to the injection of asphalt cement. The point of introduction in the drum mixer will be approved by Tollway Materials prior to production. The Contractor shall notify Tollway Materials of Dry Process GTR calibrations, and Tollway Materials shall be afforded the opportunity to witness calibrations. Ensure the GTR will not become entrained in the exhaust system of the drier or plant and will not be exposed to the drier flame at any point after induction.

During operations, the asphalt plant shall record feed records daily from the feeder unit for the purposes of verifying dry process GTR inputs into the process.

(14) Equipment for Rejuvenators. When a rejuvenator is used, it shall be added to the asphalt binder using an approved in-line blending system located between the asphalt binder supply tank and distribution onto the heated aggregate. The in-line blending system shall be installed so that the rejuvenator cannot recirculate and return to the

asphalt binder supply tank. The in-line blending system shall deliver a consistent and controllable stream of rejuvenator to the asphalt binder under all operating weather conditions and shall control the introduction of rejuvenator into the asphalt binder within +/- 2 percent of the amount specified or required. The Contractor shall use manufacturer's methods and procedures for handling and storing the rejuvenator.

All metering devices will meet the current IDOT requirements for liquid additives. Document the integration of plant control and interlocks when using metering devices. The contractor shall notify Tollway Materials of rejuvenator calibrations, and Tollway Materials shall be given the opportunity to witness calibrations.”

5. **Placement.** Asphalt mix placement shall conform to Article 406.06, 442.08 and 1030.08 of the Standard Specifications except as modified herein.

5.1. **Pavement Preparation.** The base shall be prepared according to 406.05 of the Standard Specifications except as modified herein.

Revise the application rate table in 406.05(c)(1) with this table:

Type of Surface to be Tacked	Residual Asphalt Rate lb/sq ft
Milled HMA, Aged Non-Milled HMA, Milled Concrete, Non-Milled Concrete & Tined Concrete	0.055
New HMA	0.035

Replace the second paragraph of 406.05(c)(1) with the following:

The tack coat shall be placed one lane at a time. Pavement with tack coat applied shall not be opened to traffic until the subsequent asphalt lift is placed. Any vertical or inclined face that is to be paved against shall be tack coated at the above specified rate.

Add the following to the third paragraph of 406.05(c):

If failing results are encountered, the contractor shall be notified, and another test performed on the next tack application. Payment deduction will be enforced for all pavement affected by failing results. A failing test applies to all areas from the beginning of the job or the most recent passing result. Payment for areas with less than required tack coat shall be applied according to the following table:

Tack Quantity less than Specified (lb/sq-ft)	Deduction from unit price of HMA lift above tack placement**
0.001 – 0.010*	\$1.00/ton
0.011 – 0.020*	\$2.00/ton
0.021 – 0.030*	\$5.00/ton
> 0.030*	Remove and replace HMA lift above tack placement at contractor's expense

*If tack quantity results are available before subsequent lift of HMA is placed, the

contractor will have the opportunity to place additional tack to get the quantity within specification.

**If the HMA lift above tack placement is paid for by square yards, the Engineer will use an HMA weight of 112 lbs. per square yard-inch to convert deductions.

5.2. Placement Conditions. Replace the first two paragraphs of Article 406.06(c) of the Standard Specifications with the following.

“(c) Placement Conditions: Asphalt mixes shall be placed on a clean, dry surface and when weather conditions are suitable. Asphalt mixes shall be placed within the temperature ranges (measured in the shade) listed below. Work shall not begin when local conditions indicate rain is imminent.

Tollway Table 2 – Ambient Air Temperature Requirements for Asphalt Mixes

	WMA Binder and Surface Course and SMA	WMA IL-4.75
Minimum Ambient Air Temperature (In shade)	32°F and Rising	40°F and Rising
Delivery Temperature (In truck just prior to placement)	250 to 280°F for neat virgin asphalt 270 to 300°F for modified virgin asphalt	

Minimum ambient air temperature requirements may be waived with the approval of the Engineer and Tollway Materials. Asphalt mix below the minimum specified delivery temperature shall be rejected by the Engineer. The first three loads of asphalt mix above the maximum specified delivery temperature may be acceptable at start up, otherwise shall be rejected by the Engineer.

The minimum ambient air temperature specifications in Tollway Table 2 can be waived, with all the following conditions:

- 1) All mix testing specifications are met.
- 2) The contractor shall submit a cold weather paving plan including, but not limited to, actions by the Quality Control Manager in the event that asphalt mix requirements are not achieved.
- 3) No paving shall be conducted on frozen ground.
- 4) The WMA chemical additive dosage shall be increased 50% from the mix design target. No foaming will be allowed when outside of the ambient air temperatures (Tollway Table 2).
- 5) Non-tracking or fast cure tack is used.
- 6) For IL-4.75 level binder, the growth curve target density shall have been created during allowable ambient air temperatures (Tollway Table 2).”

5.3. IL-4.75 Placement. Replace Article 406.06(c)(1)a of the Standard Specifications with the following.

“a. The surface shall be dry for at least 12 hours, and clean, prior to placement of the mixture.”

- 5.4. SMA Placement. Replace Article 406.06(c)(2)a of the Standard Specifications with the following.

“a. SMA mixture produced with a Warm Mix Additive Technology shall be placed at a minimum compaction temperature as recommended by the technology manufacturer after the SMA test strip has been placed and tested.”

Replace the last sentence of the third paragraph of Article 406.06(f) of the Standard Specifications with the following.

“In no case shall speed of the paver exceed 50 ft (15 m) per minute for binder and surface mixtures or 25 ft/min for SMA during placement.”

- 5.5. Field Conditions. Replace the last sentence of paragraph two of Article 1030.12 and Article 1030.12(a) through (d) of the Standard Specifications with the following.

“All trucks shall be covered when hauling the mixture to the paver.”

Add the following to Article 1030.12 of the Standard Specifications:

“Release agents for all equipment used in transporting and placing WMA, including but not limited to transportation vehicles, material transfer devices, pavers, rollers, and miscellaneous equipment must be listed on IDOT’s Qualified Product List for Asphalt Release Agents for Vehicles Transporting Hot Mix Asphalt”

- 5.6. Spreading and Finishing. Replace the last paragraph of Article 406.06(f) of the Standard Specifications with the following.

“A painted stringline shall be used as a guide for the finishing machine in order to maintain a uniform edge alignment; if any other method is proposed, it shall meet the approval of the Engineer prior to paving. Irregularities in the alignment of the outside edges and along the longitudinal joint shall be corrected by adding or removing asphalt mixture before the edges are rolled.

The stringline shall be painted on the pavement or base in a manner that provides a clear, well-defined path for the paver operator to follow. The paver operator shall operate the paver in such a manner that the painted stringline guide is clearly visible. A painted stringline shall be used for every lift. Additional care must be taken where curved lanes are being paved to ensure a good guideline through the curves.

The paver screed shall be operated such that the end gate shoe is in contact with or within ½” of the pavement surface while paving to properly form the pavement edge and minimize the need for raking at the joints.

Excess asphalt mixture deposited on the existing base, binder course, or surface course outside the limits of the lane being laid shall be removed immediately and disposed of as directed by the Engineer.”

5.7. Construction Joints. Replace the first five paragraphs of Article 406.06(h)(2) with the following.

“(2) Longitudinal Joints. For asphalt overlays, including the asphalt lifts in composite pavement construction, the longitudinal joint in all lifts shall be the same as the longitudinal joint location of the underlying pavement.

For full-depth asphalt pavements or when stage construction prohibits the total completion of a particular lift, the longitudinal joint in one lift shall be offset from the longitudinal joint in the preceding lift between 3 and 6 inches. The longitudinal joint in the surface course shall be at the lane width of the roadway.

For all asphalt surface placement, the joint shall be a minimum of 2 inches from the edge of the final pavement marking. For all Asphalt Pavement consisting of 3 or more lifts, the contractor shall submit to the Engineer for approval a drawing showing the location of the longitudinal joint of each lift in relationship to the final lane line. The drawing shall contain final pavement marking, including width, as well as location and limits of any staggered longitudinal joints.

For ramp pavements, the joint locations are not limited by the above conditions.

The contractor shall continuously monitor the constructed longitudinal joints for straightness. Straightness is defined as no greater than a 2-inch deviation over 16 feet from the plan location of the longitudinal joint.”

Replace the first sentence of the eight paragraph of Article 406.06 (h)(2) with the following:

“The LJS shall be applied in a single pass with a self-propelled LJS pressure distributor. Non-self-propelled or melter kettle equipment shall not be allowed unless the Contractor successfully performs an off-site placement of 1000 feet of LJS entirely within specification. At least 100 feet of the off-site placement location must have a cross slope greater than 2%. If any part of the off-site placement is out of specification, it must be repeated until passing before approval for on-site use. The off-site placement may be waived at the Engineer’s discretion if the Contractor provides evidence of previous successful placements with the same equipment and personnel on Illinois Tollway or other local agency projects.”

Replace the twelfth and thirteenth paragraphs of Article 406.06 (h)(2) with the following.

“The Contractor shall furnish to the Engineer a bill of lading for each tanker supplying material to the project. The application rate of LJS shall be verified within the first 500 ft of the day’s placement and every 12,000 ft thereafter. A suitable paper or pan shall be placed at a random location in the path of the LJS. After application of the LJS, the paper or pan shall be picked up and weighed at the job site on a certified scale. The application rate must be verified before the LJS application can continue. The tolerance between the application rate shown in the LJS Application Table and the calculated rate shall be between +5 percent and -10 percent.

A 1 qt sample shall be taken from the distributor at the jobsite once for during the initial placement and from one additional random placement for each contract and sent to Tollway Materials.”

Replace the fourteenth paragraph of Article 406.06 (h)(2) with the following.

“When LJS is placed on asphalt, the LJS shall be suitable for construction traffic to drive on without pickup or tracking of the LJS within 30 minutes of placement. If pickup or tracking occurs, LJS placement shall stop, and all damaged areas shall be repaired. When LJS is placed on concrete, the LJS shall be covered immediately following its application with fine aggregate spread at a uniform rate of 1 to 2 lb/sq-yd.”

5.8. Maximum Lifts Per Day. Add the following to Article 406.06.

“(i) Maximum Lifts Per Day. The Contractor shall not place more than two subsequent lifts of WMA per 12-hour period unless waived by the Engineer. In no case shall the Contractor place a subsequent lift of WMA prior to the underlying WMA cooling to below 140°F. The temperature shall be measured at three equally spaced readings across the mat, with readings taken two feet from both edges of pavement and one reading at the center, with all readings below 140°F. Temperatures shall be checked at a minimum of 500 feet increments when lifts are placed in the same 12-hour period.”

6. **Compaction.** Asphalt compaction shall conform to Article 406.07 and 1030.09 of the Standard Specifications except as modified herein.

6.1. General Requirements. Add the following paragraphs to Article 406.07 of the Standard Specifications.

“Compact the asphalt mix immediately after spreading and finish compaction before the asphalt mixture temperature falls below the minimum job mix compaction temperature as recommended by the manufacturer of the Warm Mix Additive technology used. Discontinue paving if the Contractor is unable to achieve the specified density before the mixture cools below the minimum recommended Warm Mix Additive mix design compaction temperature.

The addition of a non-foaming detergent to the roller water will be allowed to prevent sticking, if necessary.

Traffic will not be permitted on asphalt pavement until the temperature of the mat has fallen below 140°F.”

6.2. Rollers. Modify note 4/ of Article 406.07(a) of the Standard Specifications to the following:

“4/ The Contractor shall provide a minimum of two steel wheel tandem rollers (T_B), and/or oscillatory rollers (O_T), and/or three-wheel (3W) rollers for breakdown and one finish steel-wheeled roller (T_F) meeting the requirements of Articles 406.07 and 1101.01(e). 3W, T_B , and T_F rollers shall be a minimum of 280 lb/in, except when used for SMA, a minimum of 310 lb/in shall be required. The 3W, O_T , and T_B rollers shall be operated at a uniform speed not to exceed 3 mph, with the drive roll for T_B rollers nearest the paver and maintain an effective rolling distance of not more than 150 ft (45 m) behind the paver.”

Add the following to Article 406.07(b) of the Standard Specifications.

“Rolling patterns shall be as established by the Tollway Materials approved test strip. Any change to the rolling pattern, including but not limited to a change in equipment or number of passes, shall require a new growth curve and be approved by the Engineer and Tollway Materials.”

- 6.3. Density Modifications. Add the following to Article 1030.09(b) of the Standard Specifications.

“For acceptance, mat density shall be measured either by correlated nuclear gauge (Illinois-modified ASTM D 2950), correlated non-nuclear gauge (Tollway Modified ASTM D7113), or from cores obtained by the Contractor at random locations. The correlation coefficient ("r" value) for correlating density gauge densities with core densities shall be greater than 0.87. The correlation will be rejected if at least two core results from the correlation are not below 1.0% of the minimum acceptable edge density for a given WMA mix.

The use (or non-use) of mineral filler for density testing shall be consistent with the method used for the test strip gauge correlation. Mineral Filler is not allowed on 4.75mm mixes.

Non-nuclear gauges will be allowed in lieu of nuclear gauges in accordance with Tollway Modified ASTM D7113.”

- 6.4. Longitudinal Joint Density. Replace the second paragraph of Article 1030.09(b)(1) of the Standard Specifications with the following:

“Longitudinal joint density testing shall be performed at each random density test location. Longitudinal joint testing shall be located at a distance equal to the lift thickness, or a minimum of two inches, from each pavement edge (i.e. for a four inch lift the near edge of the density gauge or core barrel shall be within four inches from the edge of pavement). It shall be documented as to whether the joint was confined or unconfined. The joint density value shall be determined using either a correlated density gauge or cores.”

Replace the Article 1030.09(b)(1)(b) of the Standard Specifications with the following:

“(b) Unconfined Edge. Each unconfined edge joint density shall be represented by an average of two one-minute density readings or a single core density at the given density test location and shall meet the density requirements specified herein. When using a correlated density gauge, the gauge shall be rotated 180 degrees between readings. If the two readings are not within 1.5 lb./cu ft., then one additional reading shall be taken. Additional density readings taken at a given site shall not be allowed to replace the original density readings unless an obvious error has occurred (i.e. the density gauge was sitting on debris).”

6.5. IL-4.75 Requirements. Add the following to Article 1030.09(b) of the Standard Specifications.

“The density of the IL-4.75 mixture shall be according to the following.

The Contractor shall perform a growth curve at the beginning of each day. Quality Assurance shall be present for growth curve measurements. If an adjustment is made to the specific mix design, the Engineer or Tollway Materials reserve the right to request an additional growth curve and supporting tests at no additional cost to the Illinois Tollway.

Compaction of the growth curve shall commence immediately after the course is placed and at a temperature of not less than 300°F. The growth curve, consisting of a plot of lb./cu ft. vs. number of passes with the project breakdown roller, shall be developed. This curve shall be established by use of a density gauge. Tests shall be taken after each pass until the highest lb./cu ft. is obtained. This value shall be the target density provided the air voids are within acceptable limits. If air voids are not within the specified limits, corrective action shall be taken, and a new target density shall be established. A new growth curve is required if the breakdown roller used on the growth curve is replaced with a new roller during production.

The target density shall apply only to the specific gauge used. If additional gauges are to be used to determine density specification compliance, the Contractor shall establish a unique minimum allowable target density from the growth curve location for each gauge. The Engineer will establish a target density for its Quality Assurance density gauge from the growth curve location.

All lifts shall be compacted to an average density of not less than 95 percent nor greater than 102 percent of the target density obtained on the growth curve. The average density shall be based on tests representing one day's production.

Quality Control density tests shall be performed at randomly selected locations within ¼ mile intervals per lane. In no case shall more than one half day's production be completed without density testing being performed.”

6.6. Class D Patching Requirements. Replace Article 442.08(b) with the following.

“The density of the Class D Patching mixture shall be according to the following.

The Contractor shall perform a growth curve on the first patch filled each day. Quality Assurance shall be present for growth curve measurements. If an adjustment is made to the specific mix design, the Engineer or Tollway Materials reserve the right to request an additional growth curve and supporting tests at no additional cost to the Illinois Tollway.

Compaction of the growth curve shall commence immediately after the course is placed and at a temperature of not less than 275°F. The growth curve, consisting of a plot of lb./cu ft. vs. number of passes with the project breakdown roller, shall be developed. This curve shall be established by use of a density gauge. Tests shall be taken after each pass until the highest lb./cu ft. is obtained. This value shall be the target density provided the air voids are within acceptable limits. If air voids are not within the specified limits, corrective action shall be taken, and a new target density shall be established. A new

growth curve is required if the vibratory roller used on the growth curve is replaced with a new roller during production.

The target density shall apply only to the specific gauge used. If additional gauges are to be used to determine density specification compliance, the Contractor shall establish a unique minimum allowable target density from the growth curve location for each gauge. The Engineer will establish a target density for its Quality Assurance density gauge from the growth curve location.

The above procedure shall be repeated for each lift placement of the patch.

All lifts shall be compacted to an average density of not less than 97 percent nor greater than 103 percent of the lift target density obtained on the growth curve(s). A valid test shall consist of three locations, equally spaced within the patch and average together.

Quality Control density tests shall be performed at randomly selected locations within ¼ mile intervals per lane. In no case shall more than one half day's production be completed without density testing being performed.”

- 6.7. Control Limits. Revise the density control limits table and footnotes of Article 1030.09(c) of the Standard Specifications to the following.

“Tollway Table 4 – Density Control Limits

Mixture Composition	Parameter	Individual Test (includes confined edges)	Unconfined Edge Joint Density Minimum
IL-4.75 ¹	Ndesign = 50	Growth Curve, 95 – 102%, see 6.5.	
Class D Patch	Ndesign = 70	Growth Curve, 97 – 103%, see 6.6.	
IL-9.5, IL-12.5	Ndesign = 90	92.0 – 96.0%	91.0%
IL-9.5, IL-12.5	Ndesign < 90	92.5 – 97.4%	91.0%
IL-19.0	Ndesign = 90	93.0 – 96.0%	91.0%
IL-19.0	50 < Ndesign < 90	93.0 – 97.4%	91.0%
IL-19.0	Ndesign = 50	94.0 – 98.4%	92.0%
SMA	Ndesign = 80	93.5 – 97.4%	92.0%
Asphalt Stabilized Subbase	Ndesign = 50	95.0 - 98.4 %	92.0%

^{1/} A density gauge/core correlation shall not be required for IL-4.75 mixtures.

If the longitudinal joint densities do not meet the minimum requirements of Tollway Table 4, the Engineer may allow the use of a Rapid Penetrating Emulsion (RPE) in lieu of remove and replace.”

7. Test Strip and Production Testing.

Replace the Article 1030.10 with the following:

“For each contract, a 300 ton (275 metric ton) test strip will be required at the beginning of HMA production for each mixture with a quantity of 3,000 tons (2,750 metric ton) or more

according to the document “Hot-Mix Asphalt Test Strip Procedures”. SMA test strips shall be 400 tons.

Before start-up, target values shall be determined by applying gradation correction factors to the JMF when applicable. These correction factors shall be determined from previous experience. The target values, when approved by the Engineer, shall be used to control HMA production. Plant settings and control charts shall be set according to target values.

Before constructing the test strip, target values shall be determined by applying gradation correction factors to the JMF when applicable. After any JMF adjustment, the JMF shall become the Adjusted Job Mix Formula (AJMF). Upon completion of the first acceptable test strip, the JMF shall become the AJMF regardless of whether or not the JMF has been adjusted. If an adjustment/plant change is made, the Engineer may require a new test strip to be constructed. If the HMA placed during the initial test strip is determined to be unacceptable to remain in place by the Engineer, it shall be removed and replaced.

The limitations between the JMF and AJMF are as follows.

Parameter	Adjustment
1/2 in. (12.5 mm)	± 5.0 %
No. 4 (4.75 mm)	± 4.0 %
No. 8 (2.36 mm)	± 3.0 %
No. 30 (600 µm)	*
No. 200 (75 µm)	*
Asphalt Binder Content	± 0.3 %

* In no case shall the target for the amount passing be greater than the JMF.

Any adjustments outside the above limitations will require a new mix design.

Hamburg Wheel and DCT testing shall be conducted on the first full day of production after an approved test strip and shall meet the requirements set forth in the Illinois Tollway Asphalt Mixtures Special Provision. Production Hamburg Wheel and DCT testing is required each calendar year. Production performance testing should be submitted to the Engineer and Tollway Materials within 5 days of sampling. If failures occur, the Contractor shall make allowable mix adjustments/plant changes prior to the next placement, then resample and retest. If the Engineer or Tollway Materials determines additional adjustments to the mix will not produce acceptable results, a new mix design shall be required.

The Tollway reserves the right to request and witness investigative samples of any material, or conduct field testing, at any point during the project.”

Replace IDOT’s “Manual of Test Procedures for Materials - Appendix B4 - HMA Test Strip Procedures” with the following.

“General Requirements. A QC/QA mixture test strip will be required for all asphalt mixes. The mix design shall be approved by Tollway Materials prior to the test strip. Target values shall be provided by the Contactor and will be approved by Tollway Materials or their designee prior to construction of the test strip. A pre-pave meeting shall be held to coordinate personnel and materials prior to the construction of the test strip.

The test strip shall be constructed at a location approved by the Engineer and Tollway Materials to determine the mix properties, density, and laydown characteristics, and as needed to finalize any proposed mix design. These test results and visual inspections on the mixture shall be used to make corrective adjustments if necessary.

Prior to the start of mix production and placement the Engineer, in conjunction with Tollway Materials, will review and approve all test strip results, mix designs, and rolling pattern.

Team Members. The start-up team may consist of the following with required personnel in bold:

- (1) Resident Engineer
- (2) Tollway Project Manager, or representative
- (3) Tollway Materials representative
- (4) Contractor's QC Manager
- (5) Construction Manager's QA representative
- (6) Contractor's QC technician
- (7) Supplier representative (Required for new technologies)

Communication. The Contractor shall advise the team members of the anticipated start time of production for the test strip. The QC Manager shall direct the activities of the test strip team. An Illinois Tollway-appointed representative from the start-up team will act as spokesperson for the Illinois Tollway.

Process. The Test Strip(s) for asphalt mixtures shall be in accordance with the Standard Specifications except as modified herein. For SMA, the Test Strip(s) shall consist of approximately 400 tons. For asphalt stabilized base, binder course and surface course, the Test Strip(s) shall consist of approximately 300 tons.

- a. Mix Information. On the day of construction of the Test strip, the Contractor shall provide the start-up team documentation of test data showing the combined hot-bin or the combined aggregate belt sample and mineral filler at a drier-drum plant.
- b. Mix and Gradation Test Strip Samples. The first and second sets of mixture and gradation samples shall be taken by the Contractor at such times as to represent the mixture between the two growth curves and the rolling pattern area, respectively. All test strip samples shall be processed by the Contractor for determination of mix composition and volumetric properties including air voids. This shall include washed gradation tests. This information shall then be compared to the JMF and required design criteria. Prepare and test any WMA test strip mixtures, including gyratory compacted specimens for QC/QA using the same test methods, procedures and frequencies as specified for HMA, except that the WMA mixture shall be aged at the production temperature for a period of 2 hours before gyratory or performance-based test specimens are compacted.

All samples shall be processed for determination of the mix composition and volumetric properties, including air voids, before production may continue. The test data shall meet the JMF target value control limits to be considered acceptable. If the results of the required plant tests exceed the JMF target value control limits, the Contractor shall propose ingredient materials adjustments. This mixture AJMF

proposal shall be uploaded into the Web-Based Project Management System (WBPM) and directed to the Engineer and Tollway Materials.

The Contractor shall upload a proposal for full mixture production whether changes to the JMF need to be made or not. Full production of the mixture shall not commence until the Engineer and Tollway Materials have approved the test strip.

If the Engineer or Tollway Materials determines that the Contractor proposed adjustments to the mix may not produce acceptable results, a meeting between Tollway Materials and the Quality Control Manager shall be required to discuss the proposed changes before a 2nd Test Strip can be attempted.

- c. **Compaction Equipment.** It shall be the responsibility of the start-up team to verify roller compliance before commencement of growth curve construction. All paving and rolling equipment required by Section 4 herein for use on the specific mix and application shall be utilized on the test strip.

For vibratory rollers, appropriate amplitude shall be selected on the basis of the roller weight and mat thickness to achieve maximum density. The vibratory roller speed shall be balanced with frequency so as to provide compaction at a rate not less than 10 impacts per 1 foot, which shall be maintained throughout paving operations.

- d. **Construction of the Test Strip.** After the Contractor has produced the mix, transported the mix, and placed approximately 100 to 150 tons of mix, placement of the mix shall stop, and a growth curve shall be constructed. After completion of the first growth curve, paving shall resume for 50 to 100 tons of mix, placement shall stop, and the second growth curve shall be constructed within this area. Additional growth curves may be required if an adjustment/plant change is made during the test strip. The Contractor shall use the specified rolling procedures for all portions of the test strip except for the growth curve areas which shall be compacted as directed by the QC Manager. Smoothness of the test strip shall be to the satisfaction of the Engineer.
- e. **Location of Test Strip.** The test strip shall be located on a pavement type similar to the contract pavement and acceptable to the Engineer and Tollway Materials. It shall be on a relatively flat portion of the roadway. Descending/Ascending grades or ramps shall be avoided.
- f. **Compaction Temperature.** For WMA mixtures, the temperature of the mix at the beginning of the growth curve shall be within the additive / process manufacturer's recommended temperature range for compaction, with the lowest compaction temperature not less than 220°F.
- g. **Compaction and Testing.** The QC Manager will specify the roller(s) speed and number of passes required to obtain a completed growth curve. The density gauge shall be placed near the center of the hot mat and the position marked for future reference. With the bottom of the density gauge and the source rod clean, a density reading using the gauge's shortest time setting (without mineral filler) shall be taken after each pass of the roller. Rolling shall continue until the maximum density is achieved and three consecutive passes show no appreciable increase in density or no evidence of destruction of the mat. The growth curve shall be plotted.

- h. Evaluation of Growth Curves. Mixtures which exhibit density potential less than 94 percent or greater than 97 percent of the maximum theoretical density (D) shall be considered as sufficient cause for mix adjustment. If a mix adjustment is made, an additional test strip may be requested. The Illinois Tollway will pay half the cost of the contract unit price for a test strip if an additional test strip is required. The information shall then be compared to the AJMF and required design criteria.

If the density gauge potential of the mixture does not exceed 91 percent, the operation will cease until all test data is analyzed or a new mix design is produced.

In addition, other aspects of the mixture, such as appearance, segregation, texture, or other evidence of mix problems, should be noted and corrective action taken at this time.

- i. Density Gauge/Core Correlation. A correlation of core and density gauge test results shall be performed on-site as defined in the IDOT's "Procedure for Correlating Nuclear Gauge Densities with Core Densities". All correlation locations shall be cooled with ice or dry ice so that cores can be taken as soon as possible. Three locations shall be selected. Two sites shall be located on the two growth curves from the first acceptable test strip. The third location shall be in an area corresponding to the second set of mixture/ gradation samples taken at the plant. The correlation may be performed with or without mineral filler placed on the testing locations, however all future correlated density testing shall be consistent with the method selected for the test strip. This correlation shall be completed at the same time by the Contractor prior to the next day's production.

Documentation. The Test Strip rolling pattern information (including growth curves) and required plant tests will be tabulated by the contractor with copies provided to each team member, and the original submitted to the Engineer and Tollway Materials. Any change to the rolling pattern shall be approved by the Engineer and Tollway Materials."

8. Pavement Surface Smoothness. Smoothness testing of the finished asphalt surface shall be conducted according to the requirements of the Illinois Tollway Special Provision for Surface Smoothness Testing, except were modified herein

Each pavement segment shall be reported and compared to the acceptable smoothness limit based on International Roughness Index (IRI) and Localized Roughness (LR) as provided in the table below:

Tollway Table 5 – Smoothness Requirements

Pavement Surface	Maximum IRI (in/mi)	Maximum LR (in/mi)
Surface Course	60	125
Binder Course ^{1/}	70	125
Ramp (Posted speed < 45 mph)	100	145
Ramp (Posted speed ≥ 45mph)	80	135

1/ Only to be used if roadway is opened to traffic prior to placement of Surface Course

The final pavement surface shall meet the requirements for both IRI and LR. For each pavement segment that exceeds either the maximum acceptable initial IRI or LR value, there are two methods for proceeding:

- (1) Remove and replace the pavement that exceeds the limit.
- (2) Grind the segment to bring the pavement surface into conformance with the acceptable limits without adversely affecting the required thickness of the pavement structure.

Either of the above options shall be applied to each rejectable segment. The contractor shall provide a corrective work plan describing the methods, procedures and limits of repair. The corrective work shall not proceed until the plan has been approved in writing by the Engineer. Once remediation has been completed, smoothness testing shall be required by the contractor.

The Contractor shall notify the Engineer at least 24 hours prior to commencement of the corrective work. The Contractor shall not commence corrective work until the methods, procedures and limits have been approved in writing by the Engineer.

All smoothness corrective work shall be for the entire lane width. Pavement cross slope shall be maintained through areas where corrective action is performed.

Surface corrections shall be made prior to placing permanent pavement markings. In the event that permanent pavement markings are damaged or destroyed during corrective work, they will be replaced at no cost to the Illinois Tollway.

A sufficient length of pavement shall be corrected to address areas of unacceptable smoothness without producing additional high or low points. Retesting of the segments after corrective action shall include the segment prior and four segments after the corrected segment.

9. Pay Adjustments

9.1. Construction Joints. See sections 5.5 and 5.6 of this document.

For SMA binder and surface, the Engineer will assess a 1-ton quantity deduction for each instance where a 2-inch or greater deviation in the longitudinal joint is found within a 16-foot segment measured from the top of the constructed mat. Deductions shall only be applied to deviations noted along an unconfined edge prior to construction of the adjacent lane. No more than 1 deduction will be assessed in any 16-foot length.

9.2. Bleeding and/or Flushing for SMA Surface Pavement.

If bleeding or flushing occurs in SMA pavement, regardless of the cause, areas of bleeding larger than one square foot within a five-foot length of pavement shall result in a deduction of 2 tons in the SMA measured for payment as specified. If bleeding or flushing occurs in SMA, regardless of the cause, areas of bleeding larger than 10 square feet within a five-foot length of pavement shall result in the entire area affected to be removed and replaced with equivalent SMA for the full width of the paving lane at no additional cost to the Illinois Tollway.

10. Method of Measurement

This work will be measured for payment as indicated in Table 6 below.

Tollway Table 6 – Method of Measurement

Item	Method of Measurement	According to Article
Asphalt Stabilized Base	Square Yard	312.15
Asphalt Shoulders	Square Yard	482.07
Base Course	Square Yard	355.10
Asphalt Binder and Surface	Ton	406.13
IL-4.75 and SMA	Ton	406.13
Longitudinal Joint Seal	Foot	406.13
Pavement Patching	Square Yard	442.11
Tack Coat	Pound	406.13
Temporary Pavement	Square Yard	406.13
Test Strips	Each	406.13 ^{1/}

1/ Test strip information is measured when finalized and accepted by the Engineer

11. Basis of Payment

When Warm Mix Asphalt Shoulders are constructed along the edges of the completed pavement structure, this work will be paid for at the contract unit price per square yard for HOT-MIX ASPHALT SHOULDERS, 6". If a shoulder overlay is proposed, it will be paid for at the contract unit price per ton of the type of asphalt specified.

AGGREGATE SHOULDERS, TYPE B 4” (ILLINOIS TOLLWAY)

This Special Provision shall only be utilized for aggregate shoulders placed between I-39 SB stations 2747+00.00 and 2751+53.11.

Effective: October 23, 2006
 Revised: February 03, 2023

Revise Section 481 of the Standard Specifications to read:

“SECTION 481. AGGREGATE SHOULDERS

481.01 Description. This work shall consist of the furnishing and placing filter fabric (for new shoulders where specified) furnishing, placing, shaping and compacting aggregate on a prepared subgrade adjacent to the edges of the completed pavement structure or stabilized shoulder.

481.02 Materials. Materials shall be according to the following.

Item	Article/Section
(a) Coarse Aggregate (Note 1)	1004.04
(b) RAP Material (Note 2)	1031
(c) Filter Fabric (Note 3)	1080.02

Note 1. Grading shall be CA-6 with aggregate shoulders Type A and B, and CA-1 for aggregate shoulders special, Type C. If recycled aggregate is used for this application, work shall be in accordance with the Special Provision for Production of Recycled Aggregate and Article 1004.04.

Note 2. Reclaimed asphalt pavement (RAP) may be used as aggregate wedge shoulders Type B and Aggregate Shoulders, Type B. All recycled material shall be meet the requirements found in the Tollway Special Provision for Production of Recycled Aggregate and Reclaimed Asphalt Materials (RAM).

Note 3. Filter fabric shall meet the requirements of Article 1080.02 for ground stabilization.

481.03 Equipment. Equipment shall be according to the following.

Item	Article/Section
(a) Tamping Rollers	1101.01
(b) Pneumatic-Tired Rollers	1101.01
(c) Three-Wheel Rollers (Note 1)	1101.01
(d) Tandem Rollers (Note 1)	1101.01
(e) Vibratory Machine (Note 2)	
(f) Aggregate Spreaders	1102.04

Note 1. Three-wheel or tandem rollers shall weigh from 6 to 10 tons and not less than 200 lb/in. nor more than 325 lb/in. of width of roller.

Note 2. The vibratory machine shall meet the approval of the Engineer.

CONSTRUCTION REQUIREMENTS

481.04 Subgrade Preparation. The subgrade shall be prepared in a manner approved by the Engineer and any required filter fabric shall be placed. A minimum IBV of 4 in accordance with Illinois Test Procedure 501 shall be maintained on the subgrade.

481.05 Moisture Content. Prior to being placed on the subgrade, the aggregate shall contain sufficient moisture to provide satisfactory compaction.

For Type A shoulders, the water and aggregate shall be mixed through a controlled aggregate mixing system. The system shall consist of a mechanical mixing device and aggregate and water measuring devices, meeting the approval of the Engineer. Wetting the aggregate in cars, bins, stockpiles, or trucks will not be permitted.

481.06 Aggregate Shoulders With and Without Filter Fabric, Type A and Type B. The shoulders shall be constructed in lifts of not more than 6 in. thick when compacted, except that if tests indicate the desired results are being obtained, the compacted thickness of any lift may be increased to a maximum of 8 in. The aggregate shall be placed with a spreader.

Each lift of material shall be compacted with a tamping roller, a pneumatic-tired roller, a vibratory machine, or a combination of any of the three, until the compaction has been approved by the Engineer. If the moisture content of the material is not such as to permit satisfactory compaction during the compacting operations, water shall be added in such quantity that satisfactory compaction can be obtained. The top lift shall be given a final rolling with a three-wheel or tandem roller.

If any subgrade material is worked into the aggregate during the compacting or finishing operation, all granular material within the affected area shall be removed and replaced with new aggregate.

The shoulders shall be constructed to the thicknesses shown on the plans. Thickness determinations shall be made at such points as the Engineer may select. When the constructed thicknesses are less than 90 percent of the thicknesses shown on the plans, aggregate shall be added to obtain the required thicknesses; however, the surface elevation of the completed shoulders shall not exceed by more than 1/8 in. the surface elevation shown on the plans or authorized by the Engineer.

481.08 Opening to Traffic. The road shall be open to traffic according to Article 701.07.

481.09 Method of Measurement. This work will be measured for payment in square yards according to Article 311.08, except payment will not be made for aggregate outside the plan width.

481.10 Basis of Payment. This work will be paid for at the contract unit price per square yard for AGGREGATE SHOULDERS, TYPE B, 4".

BOX CULVERT END SECTIONS

Effective: June 1, 2014

Revised: April 12, 2016

Description. This work shall consist of constructing cast-in-place concrete and precast concrete end sections for box culverts. These end sections are shown on the details in the plans. This work shall be according to Section 540 of the Standard Specifications except as modified herein.

Materials. Materials shall be according to the following Articles of Division 1000 – Materials of the Standard Specifications.

Item	Article/Section
(a) Portland Cement Concrete (Note 1)	1020
(b) Precast Concrete End Sections (Note 2)	
(c) Coarse Aggregate (Note 3)	1004.05
(d) Structural Steel (Note 4)	1006.04
(e) Anchor Bolts and Rods (Note 5)	1006.09
(f) Reinforcement Bars	1006.10(a)
(g) Nonshrink Grout	1024.02
(h) Chemical Adhesive Resin System	1027
(i) Mastic Joint Sealer for Pipe	1055
(j) Handling Hole Plugs	1042.16

Note 1. Cast-in-place concrete end sections shall be Class SI, except the 14 day mix design shall have a compressive strength of 5000 psi (34,500 kPa) or a flexural strength of (800 psi) 5500 kPa and a minimum cement factor of 6.65 cwt/cu yd (395 kg/cu m).

Note 2. Precast concrete end sections shall be according to Articles 1042.02 and 1042.03(b)(c)(d)(e) of the Standard Specifications. The concrete shall be Class PC according to Section 1020, and shall have a minimum compressive strength of 5000 psi (34,000 kPa) at 28 days.

Joints between precast sections shall be produced with reinforced tongue and groove ends according to the requirements of ASTM C 1577.

Note 3. The granular bedding placed below a precast concrete end section shall be gradation CA 7, CA 11 or CA 18.

Note 4. All components of the culvert tie detail shall be galvanized according to the requirements of AASHTO M 111 or M 232 as applicable.

Note 5. The anchor rods for the culvert ties shall be according to the requirements of ASTM F 1554, Grade 105 (Grade 725).

CONSTRUCTION REQUIREMENTS

The concrete end sections may be precast or cast-in-place construction. Toe walls shall be either precast or cast-in-place, and shall be in proper position and backfilled according to the applicable paragraphs of Article 502.10 of the Standard Specifications prior to the installation of the concrete end sections. If soil conditions permit, cast-in-place toe walls may be poured directly against the soil. When poured directly against the soil, the clear cover of the sides and bottom of the toe wall shall be increased to 3 in. (75 mm) by increasing the thickness of the toe wall.

- (a) Cast-In-Place Concrete End Sections. Cast-in-place concrete end sections shall be constructed according to the requirements of Section 503 of the Standard Specifications and as shown on the plans.
- (b) Precast Concrete End Sections. When the concrete end sections will be precast, shop drawings detailing the slab thickness and reinforcement layout shall be submitted to the Engineer for review and approval.

The excavation and backfilling for precast concrete end sections shall be according to the requirements of Section 502 of the Standard Specifications, except a layer of granular bedding at least 6 in. (150 mm) in thickness shall be placed below the elevation of the bottom of the end section. The granular bedding shall extend a minimum of 2 ft (600 mm) beyond each side of the end section.

Anchor rods connecting precast sections shall be brought to a snug tight condition followed by an additional 2/3 turn on one of the nuts. Match marks shall be provided on the bolt and nut to verify relative rotation between the bolt and the nut.

When individual, precast end sections are placed side-by-side for a multi-cell culvert installation, a 3 in. (75 mm) space shall be left between adjacent end section walls and the space(s) filled with Class SI concrete.

Method of Measurement. This work will be measured for payment as each, with each end of each culvert being one each.

Basis of Payment. This work will be paid for at the contract unit price per each for BOX CULVERT END SECTIONS of the culvert number specified.

PIPE CULVERTS

Effective: July 1, 1994

This work shall be done according to Section 542 of the Standard Specifications. The contractor shall do this work in such a manner that there will be no backwater passing thru the opening in the dike and flooding the adjacent properties. The contractor will also be required to backfill the outer 3 feet of the dike slopes with an impervious material. The contractor shall not start the culvert during unstable weather conditions or when unstable weather conditions are forecasted for the river basin.

This work will be paid for at the contract unit price per Foot for PIPE CULVERT of the type and size specified.

GUARDRAIL REMOVAL

Effective: August 20, 1990

Revised: April 10, 2014

This work shall be done according to Section 632 of the Standard Specifications except that all removed guardrail will become the property of the Contractor.

This work will be paid for at the contract unit price per Foot for GUARDRAIL REMOVAL, measured from center-to-center of end posts.

REMOVAL AND DISPOSAL OF REGULATED SUBSTANCES (PROJECT SPECIFIC)

Description. This work shall consist of the removal and disposal of regulated substances according to Section 669 of the Standard Specifications and as revised below.

Contract Specific Work Areas. For stationing, the lateral distance is measured from centerline and the farthest distance is the offset distance or construction limit, whichever is less.

The following contract specific work areas shall be monitored by the Environmental Firm for soil contamination and workers protection.

ISGS Site No. 1681V3-1: ROW, I-39 between M.M. 117.5 and M.M. 122, Rockford and Cherry Valley, Winnebago County, IL

- Station 122+00 to 126+25, 0 to 340' LT (US 20): The Engineer has determined this material meets the criteria of and shall be managed in accordance with Article 669.05(a)(2). Contaminant of concern sampling parameter: Lead.
- Station 127+50 to 131+00, 0 to 105' LT (US 20): The Engineer has determined this material meets the criteria of and shall be managed in accordance with Article 669.05(a)(3). Contaminants of concern sampling parameters: Benzo[a]pyrene and manganese.
- Station 131+00 to 137+50, 0 to 145' LT (US 20): The Engineer has determined this material meets the criteria of and shall be managed in accordance with Article 669.05(a)(2). Contaminant of concern sampling parameter: Lead.
- Station 131+00 to 137+50, 0 to 145' RT (US 20): The Engineer has determined this material meets the criteria of and shall be managed in accordance with Article 669.05(c). Contaminant of concern sampling parameter: Iron.
- Station 145+00 to 148+20, 170 to 390' RT (US 20): The Engineer has determined this material meets the criteria of and shall be managed in accordance with Article 669.05(c). Contaminants of concern sampling parameters: Iron and manganese.
- Station 148+60 to 151+50, 0 to 180' LT (US 20): The Engineer has determined this material meets the criteria of and shall be managed in accordance with Article 669.05(a)(1). Contaminants of concern sampling parameters: Cadmium, iron, and manganese.
- Station 148+60 to 151+50, 0 to 180' LT (US 20): The Engineer has determined this material meets the criteria of and shall be managed in accordance with Article 669.05(c). Contaminant of concern sampling parameter: Manganese.

- Station 148+60 to 151+50, 0 to 240' RT (US 20): The Engineer has determined this material meets the criteria of and shall be managed in accordance with Article 669.05(c). Contaminants of concern sampling parameters: Iron and manganese.
- Station 1315+50 to 1321+50, 0 to 215' RT (US 20): The Engineer has determined this material meets the criteria of and shall be managed in accordance with Article 669.05(a)(1). Contaminants of concern sampling parameters: Arsenic and iron.
- Station 1321+50 to 1327+25, 0 to 170' RT (US 20): The Engineer has determined this material meets the criteria of and shall be managed in accordance with Article 669.05(c). Contaminant of concern sampling parameter: Iron.
- Station 1328+00 to 1332+50, 0 to 115' RT (US 20): The Engineer has determined this material meets the criteria of and shall be managed in accordance with Article 669.05(a)(2). Contaminant of concern sampling parameter: Lead.
- Station 1332+50 to 1338+75, 0 to 145' LT (US 20): The Engineer has determined this material meets the criteria of and shall be managed in accordance with Article 669.05(a)(2). Contaminant of concern sampling parameter: Lead.
- Station 2708+15 to 2712+60, 0 to 165' RT (I-39): The Engineer has determined this material meets the criteria of and shall be managed in accordance with Article 669.05(a)(2). Contaminant of concern sampling parameter: Cadmium.
- Station 2734+50 to 2737+50, 0 to 160' RT (I-39): The Engineer has determined this material meets the criteria of and shall be managed in accordance with Article 669.05(b)(1). Contaminants of concern sampling parameter: pH and manganese.
- Station 2734+50 to 2737+50, 0 to 150' LT (I-39): The Engineer has determined this material meets the criteria of and shall be managed in accordance with Article 669.05(b)(1). Contaminant of concern sampling parameter: pH.
- Station 1315+00 to 1315+50, 0 to 215' RT (US 20): The Engineer has determined this material meets the criteria of and shall be managed in accordance with Article 669.05(b)(1). Contaminant of concern sampling parameter: pH.
- Station 1332+50 to 1338+75, 0 to 145' LT (US 20): The Engineer has determined this material meets the criteria of and shall be managed in accordance with Article 669.05(b)(1). Contaminants of concern sampling parameters: pH and iron.
- Station 2729+50 to 2731+50, 0 to 190' RT (I-39): The Engineer has determined this material meets the criteria of and shall be managed in accordance with Article 669.05(c). Contaminant of concern sampling parameter: Iron.
- Station 2731+50 to 2734+50, 0 to 210' RT (I-39): The Engineer has determined this material meets the criteria of and shall be managed in accordance with Article 669.05(c). Contaminant of concern sampling parameter: Iron.
- Station 2732+00 to 2734+50, 0 to 225' LT (I-39): The Engineer has determined this material meets the criteria of and shall be managed in accordance with Article 669.05(c). Contaminant of concern sampling parameter: Iron.
- Station 2734+50 to 2737+50, 0 to 150' LT (I-39): The Engineer has determined this material meets the criteria of and shall be managed in accordance with Article 669.05(c). Contaminant of concern sampling parameter: Iron.
- Station 2737+50 to 2740+50, 0 to 100' LT (I-39): The Engineer has determined this material meets the criteria of and shall be managed in accordance with Article 669.05(c). Contaminant of concern sampling parameter: Iron.
- The Engineer has determined groundwater encountered from 0 to 27-foot bgs in the vicinity of the station and off-set meets the criteria of and shall be managed in accordance with Article 669.05(d). Excess groundwater should be managed in accordance with the NPDES Permit, including provisions for management of silts and sediments contained in discharges from

dewatering activities. Contaminants of concern sampling parameters include: VOCs, SVOCs, total metals, and dissolved metals.

ISGS Site No. 1681V3-8: Wheels by RT, 7261 Harrison Avenue, Cherry Valley, Winnebago County, IL

- Station 500+00 to 501+60, 0 to 110' LT (Harrison Avenue): The Engineer has determined this material meets the criteria of and shall be managed in accordance with Article 669.05(a)(1). Contaminant of concern sampling parameter: Arsenic.
- Station 501+60 to 502+91, 0 to 110' LT (Harrison Avenue): The Engineer has determined this material meets the criteria of and shall be managed in accordance with Article 669.05(a)(3). Contaminant of concern sampling parameter: Benzo[a]pyrene and lead.

ISGS Site No. 1681V3-9: Commercial Building, 2406 South Bell School Road, Cherry Valley, Winnebago County, IL

- Station 300+00 to 302+50, 0 to 130' RT (South Mall Drive): The Engineer has determined this material meets the criteria of and shall be managed in accordance with Article 669.05(b)(1). Contaminant of concern sampling parameter: pH.

ISGS Site No. 1681V3-16: Magic Waters Waterpark, 7820 Cherryvale North Boulevard, Cherry Valley, Winnebago County, IL

- Station 2740+50 to 302+50, 0 to 130' RT (I-39): The Engineer has determined this material meets the criteria of and shall be managed in accordance with Article 669.05(b)(1). Contaminant of concern sampling parameter: pH.
- Station 2742+50 to 2748+00, 0 to 95' LT (I-39): The Engineer has determined this material meets the criteria of and shall be managed in accordance with Article 669.05(c). Contaminant of concern sampling parameter: Iron.

Work Zones

Three distinct OSHA HAZWOPER work zones (exclusion, decontamination, and support) shall apply to projects adjacent to or within sites with documented leaking underground storage tank (LUST) incidents, or sites under management in accordance with the requirements of the Site Remediation Program (SRP), Resource Conservation and Recovery Act (RCRA), or Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), or as deemed necessary. For this project, the work zones apply for the following ISGS PESA Sites:
None

Additional information on the contract specific work areas listed above collected during the regulated substances due-diligence process is available through the District's Environmental Studies Unit (DESU).

CONCRETE FOUNDATIONS

Effective: April 1, 2019

All drilled foundations listed under Class SI concrete in Table 1 of Article 1020.04 shall use Drilled Shaft (DS) concrete mix in lieu of Class SI concrete meeting the requirements of Section 1020 of the Standard Specifications.

GROOVING FOR RECESSED PAVEMENT MARKING, LETTERS AND SYMBOLS

The work shall be completed per Article 780.05, except that the grooving for letters and symbols shall be as close to the shape of the letter or symbol as possible, being a minimum of ½ inch wider on all sides. Excessive boxing out for the letter or symbol shall not be allowed.

This work shall be paid for at the contract unit price per square foot from the table below for GROOVING FOR RECESSED PAVEMENT MARKING, LETTERS AND SYMBOLS.

Grooving Area Chart (Symbols)

SYMBOLS				
Symbol	Pavement Marking Large Size (SF)	Grooving (SF)	Pavement Marking Small Size (SF)	Grooving (SF)
Through Arrow	11.5	12.6	6.5	7.3
Left or Right Arrow	15.6	16.8	8.8	9.8
2 Arrow Combination Left (or Right) and Through	26.0	28.2	14.7	16.2
3 Arrow Combination Left, Right, and Through	38.4	41.3	20.9	23.0
Lane Drop Arrow	41.5	43.5	--	--
Wrong Way Arrow	24.3	27.3	--	--
Railroad "R" 6ft (1.8m)	3.6	5.3	--	--
Railroad "X" 20ft (6.1m)	54.0	57.5	--	--
International Symbol of Accessibility	3.1	4.0	--	--
Bike Symbol	4.7	12.3	--	--
Shared Lane Symbol	8.0	16.7	--	--

UNIT DUCT (ILLINOIS TOLLWAY)

(Revised: March 1, 2023)

This Special Provision shall only be utilized for unit duct between I-39 stations 2745+00 to 2747+00 (SB) and 17+60 to 24+00 (NB).

Revise Section 816 of the Standard Specifications to read:

Materials. Materials shall be according to the following Articles of Division 1000 – Materials of the Standard Specifications and as modified or supplemented by the Illinois Tollway Supplemental Specifications. See Appendix for Illinois Tollway Material Supplemental Specifications.

Item	Article/Section
(a) Unit Duct	1066.01
(b) Coilable Nonmetallic Conduit	1088.01(c)
(c) Conductors (Note 1)	1066.02
(d) Cable Insulation	1066.03
(e) Splicing and Termination of Electric Cable	1066.06
(f) Wiring Identification Markers	1066.07
(g) Electrical Tape	1066.08

Note 1. Copper conductors shall be used.

Installation. The first paragraph of Article 816.03 shall be replaced with the following:

Unit duct shall be installed in accordance with Article 810.04 of the Standard Specifications Article 810.04 and the following. Use of the word conduit in Article 810.04 of the Standard Specification shall be construed to mean unit duct.

Method of Measurement. This work will be measured by foot.

Basis of Payment. This work will be paid for at the contract unit price per foot installed for UNIT DUCT, 600V, 2-1C NO.2, 1/C NO.4 GROUND, (XLP-TYPE USE), 1 1/4" DIA. POLYETHYLENE and UNIT DUCT, 600V, 4-1C NO.2, 1/C NO.4 GROUND, (XLP-TYPE USE), 1 1/2" DIA. POLYETHYLENE.

LIGHT POLES (ILLINOIS TOLLWAY)

(Revised: March 1, 2023)

This Special Provision shall only be utilized for light poles between I-39 stations 2745+00 to 2747+00 (SB) and 17+60 to 24+00 (NB).

Revise Section 830 of the Standard Specifications to read:

Description.

Replace Article 830.01 with the following:

This work shall consist of furnishing and installing a light pole complete with a truss type mast arm(s) and mast arm cable assembly(ies), and all hardware and accessories required for the intended temporary or permanent use of the pole.

Materials. Materials shall be according to the following Articles of Division 1000 – Materials of the Standard Specifications and as modified or supplemented by the Illinois Tollway Supplemental Specifications. See Appendix for Illinois Tollway Material Supplemental Specifications.

Item	Article/Section
(a) Light Poles	1069
(b) Breakaway Devices	1070.04

Installation.

Replace the first paragraph of Article 830.03 with the following paragraphs:

The light poles shall be erected and placed on their foundations in accordance with Manufacturer’s recommendations. Care shall be exercised in handling and erecting the poles so as not to damage the finish. Rope or canvas slings shall be used in moving light poles. Each light pole shall be erected plumb with arm and luminaire in place.

The truss type mast arm and luminaire cable assembly shall be installed as indicated in the plan details. The aluminum pole cap and luminaire lid may be removed to allow for the routing of the cable. The cable shall be routed around the bolts for the luminaire connection bracket encompassing a minimum of two (2) bolts. Each end of the cable shall be connected with a minimum of two (2) stainless steel wire rope clips as indicated. Reattach pole cap with three (3) new ¼” stainless steel hex head screws and close the luminaire lid. Slack shall be provided in the luminaire cable assembly as shown in the plans. Excess slack shall be tucked into the end of the mast arm to avoid entanglement with luminaire fixture.

Prior to the installation of any cable assemblies, the Contractor shall demonstrate to the satisfaction of the Engineer their methods of routing the cable within the luminaire, clipping the loops at each end, and (for single arm poles) attaching to the steel plate. The Engineer shall provide photos of the cable routing for upload to the Illinois Tollway Web Based Program Management (WBPM) system.

Each pole shall be tagged with an aluminum tag showing a unique identifier (Pole Inventory Number Convention as described below) and the year of installation. The tag shall always be placed on the side of the light pole facing roadway traffic, or towards lower milepost for median mounted poles. The tag shall be attached to the pole with adhesive at a distance of 6 feet above the roadway elevation and shall be a minimum 4" wide by 2" high, yellow color. Character height shall be 1". The tag and adhesive shall be for exterior use and provide a minimum of 15 years of service.

In addition, each truss type mast arm shall be tagged with a unique identifier (Pole Inventory Number Convention as described below). Same type and requirements for the pole tags shall apply to the truss type mast arm tag, except character font shall be 1/2 inch. The tag shall be attached to the bottom of the lower truss arm and oriented to be read when facing the direction of traffic.

The Pole Inventory Number Convention shall be as follows:
Tollway, Milepost, Type, Direction, Ramp location

TOLLWAY: EW = Reagan Memorial Tollway (I-88)
NS = Veterans Memorial Tollway (I-355)
NW = Jane Addams Memorial Tollway (I-90)
TS = Tri-State Tollway (I-294 & I-294/I-80)
TN = Tri-State Tollway (I-94)
ES = Eden's Spur (I-94)
EO = Elgin-O'Hare Tollway (IL-390)
WA = West O'Hare Access Bypass (I-490)

MILEPOST: Milepost to the hundredth (i.e. 14.75)

TYPE: The type only refers to the basic shape of the light pole
P = Single Mast Arm
T = Twin Mast Arms, add direction (E, W, N, or S) to identify which arm

DIRECTION: EB, SB, WB, NB Inventory direction of the roadway, or X for centerline median

RAMP: (R#) = along ramp (omitted if not along ramp), where R is the letter designation of the ramp and # is the sequential numbering of the pole in the direction of travel along the ramp

EXAMPLES: 1) TS38.40TE NB for a northbound-side arm of a twin mast light pole with located along the Tri-State Tollway (I-294) at milepost 38.40
2) NW8.54P EB(R10) for a single mast light pole and arm on eastbound I-90, being the tenth pole along a ramp at mile post 8.54.

Add the following paragraphs to Article 830.03:

(d) Ground Mounted Light Poles. All ground mounted light poles shall be provided with an approved FHWA breakaway device as specified in Illinois Tollway Supplemental Specification Sections 838 and 1070. Breakaway devices shall not be measured for payment but shall be included in the cost of the Light Pole.

The use of galvanized steel U-shaped shims under the pole base will be permitted for plumbing ground mounted light poles only. Shims shall be provided in increments of nominal thickness not exceeding 1/8 inch. Shimming of more than 1/8 inch is permitted at any individual anchor bolt if a 3/4-inch steel leveling plate ASTM A-36 (AASHTO M183) is used, providing that sufficient thread is exposed to fully contact the hex nuts and that grading be level with the top of the leveling pad. When more than 3/4 inch of shimming is required, the necessary corrections shall be made to the foundation surface. Bending of anchor bolts will not be permitted.

Basis of Payment. This work will be paid for at the contract unit price per foot installed for LIGHT POLE, ALUMINUM, 50 FT. M.H., 15 FT. MAST ARM.

In Article 830.05 delete the last paragraph ("When breakaway devices are specified, the devices will be paid for separately according to Articles 838.04 and 838.05").

MAST ARM DAMPENING DEVICE

Description. This work shall consist of installing a dampening device on mast arms, greater than 46 feet in length, equidistant between the two outermost signal heads.

General Requirements. The dampening device shall consist of a 36" x 72" Type 1 unpainted aluminum sign stock mounted horizontally on top of the mast arm with the 36" length perpendicular to the arm.

Method of Measurement. This work will not be measured separately for payment.

Basis of Payment. This work shall be considered as included in the unit cost, per each, for STEEL COMBINATION MAST ARM ASSEMBLY AND POLE, of the size specified

TEMPORARY TRAFFIC SIGNAL INSTALLATION

Revise Section 890.00 of the Standard Specifications to read:

Only an approved equipment vendor will be allowed to assemble the temporary traffic signal cabinet. A representative of the approved control equipment vendor shall be present at the temporary traffic signal turn-on inspection.

Only controllers supplied by one of the District approved closed loop equipment manufacturers will be approved for use at temporary signal locations. All controllers used for temporary traffic signals shall be fully actuated NEMA microprocessor based with RS232 data entry ports compatible with existing monitoring software approved by IDOT District 2, installed in NEMA TS1 or TS2 cabinets with 8 phase back panels, capable of supplying 255 seconds of cycle length and individual phase length settings up to 99 seconds. On projects with one lane open and two-way traffic flow, such as bridge deck repairs, the temporary signal controller shall be capable of providing an adjustable all red clearance setting of up to 30 seconds in length. All controllers used for temporary traffic signals shall meet or exceed the requirements of Section 857 of the Standard Specifications with regards to internal time base coordination and preemption.

All temporary traffic signal cabinets shall have a closed bottom made of aluminum alloy. The

bottom shall be sealed along the entire perimeter of the cabinet base to ensure a water, dust and insect-proof seal. The bottom shall provide a minimum of two (2) 100 mm (4 inch) diameter holes to run the electric cables through. The 100 mm (4 inch) diameter holes shall have a bushing installed to protect the electric cables and shall be sealed after the electric cables are installed.

Grounding shall be provided for the temporary traffic signal cabinet meeting or exceeding the applicable portions of the National Electrical Code and Section 807 of the Standard Specifications.

All traffic signal sections shall be 300 mm (12 inches). The temporary traffic signal heads shall be placed as indicated on the temporary traffic signal plan or as directed by the Engineer. The Contractor shall furnish enough cable slack to relocate heads to any position on the span wire or at locations illustrated on the plans for construction staging. The temporary traffic signal shall remain in operation during all signal head relocations. Each temporary traffic signal head shall have its own cable from the controller cabinet to the signal head.

All emergency vehicle preemption equipment (light detectors, light detector amplifiers, confirmation beacons, etc.) as shown on the temporary traffic signal plans shall be provided by the Contractor. It shall be the Contractor's responsibility to contact the municipality or fire district to verify the brand of emergency vehicle preemption equipment to be installed prior to the contract bidding.

The equipment must be completely compatible with all components of the equipment currently in use by the Agency. All light operated systems shall operate at a uniform rate of 14.035 hz ± 0.002 , or as otherwise required by the Engineer, and provide compatible operation with other light systems currently being operated in the District. All labor and material required to install and maintain the Emergency Vehicle Preemption installation shall be incidental to the item Temporary Traffic Signal Installation.

All temporary traffic signal installations shall have vehicular detection installed as shown on the plans or as directed by the Engineer. Pedestrian push buttons shall be provided for all pedestrian signal heads/phases as shown on the plans or as directed by the Engineer. Minor cross streets shall have vehicular detection provided by Microwave Vehicle Sensors or Video Vehicle Detection System as shown on the plans or as directed by the Engineer. The microwave vehicle sensor or video vehicle detection system shall be approved by IDOT before furnishing and installing. The Contractor shall install, wire, and adjust the alignment of the microwave vehicle sensor or video vehicle detection system in accordance to the manufacturer's recommendations and requirements. The Contractor shall be responsible for adjusting the alignment of the microwave vehicle sensor or video vehicle detection system for all construction staging changes and for maintaining proper alignment throughout the project. A representative of the approved control equipment vendor shall be present and assist the contractor in setting up and maintaining the microwave vehicle sensor or video vehicle detection system.

All existing street name and intersection regulatory signs shall be removed from existing poles and relocated to the temporary signal span wire. If new mast arm assembly and pole(s) and posts are specified for the permanent signals, the signs shall be relocated to the new equipment at no extra cost.

The energy charges for the operation of the traffic signal installation shall be paid for by others if the installation replaces an existing signal. Otherwise charges shall be paid for under 109.05 of the Standard Specifications.

All control equipment for the temporary traffic signal(s) shall be furnished by the Contractor unless otherwise stated in the plans. On projects with multiple temporary traffic signal installations, all controllers shall be the same manufacturer brand and model number with current software installed.

Maintenance shall meet the requirements of the Traffic Specifications and District Specifications for "Maintenance of Existing Traffic Signal Installation." Maintenance of temporary signals and of the existing signals shall be incidental to the cost of this item. When temporary traffic signals are to be installed at locations where existing signals are presently operating, the Contractor shall be fully responsible for the maintenance of the existing signal installation as soon as he begins any physical work on the Contract or any portion thereof. Maintenance responsibility of the existing signals shall be incidental to the item Temporary Traffic Signal Installation(s). In addition, a minimum of seven (7) days prior to assuming maintenance of the existing traffic signal installation(s) under this Contract, the Contractor shall request that the Resident Engineer contact the Bureau of Traffic for an inspection of the installation(s).

Temporary Traffic Signals for bridge projects shall follow the State Standards, Standard Specifications, and any plans for Bridge Temporary Traffic Signals included in the plans. The installation shall meet the above requirements for "Temporary Traffic Signal Installation". In addition, all electric cable shall be aerially suspended, at a minimum height of 5.5m (18 feet), on temporary wood poles (Class 5 or better) of 13.7 m (45 feet), minimum height. The signal heads shall be span wire mounted or bracket mounted to the wood pole or as directed by the Engineer. The Controller cabinet shall be mounted to the wood pole or as directed by the Engineer. Microwave vehicle sensors or video vehicle detection may be used in place of the detector loops as approved by the Engineer.

Basis of Payment. This work shall be paid for at the contract unit price each for TEMPORARY TRAFFIC SIGNAL INSTALLATION. The price of which shall include all costs for the modifications required for traffic staging, changes in signal phasing as required in the Contract plans, microwave vehicle sensors, video vehicle detection system, any maintenance or adjustment to the microwave vehicle sensors/video vehicle detection system, all material required, the installation and complete removal of the temporary traffic signal.

REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT

Add the following to Article 895.05 of the Standard Specifications:

The traffic signal equipment which is to be removed and is to become the property of the Contractor shall be disposed of outside the right-of-way at the Contractor's expense.

All equipment to be returned to the State shall be delivered by the Contractor to the District Traffic Signal Section (815-284-5468). The Contractor shall contact Scott Kullerstrand, 815-284-5468 to schedule an appointment to deliver the equipment. No equipment will be accepted without a prior appointment. All equipment shall be delivered within 30 days of removing it from the traffic signal installation. The Contractor shall provide one hard copy and one electronic file of a list of equipment that is to remain the property of the State, including model and serial numbers, where applicable. The Contractor shall also provide a copy of the Contract plan or special provision showing the quantities and type of equipment. Controllers and peripheral equipment from the same location shall be boxed together (equipment from different locations may not be mixed) and all boxes and controller cabinets shall be clearly marked or labeled with the location from which

they were removed. If equipment is not returned according to these requirements, it will be rejected by the State. The Contractor shall be responsible for the condition of the traffic signal equipment from the time Contractor takes maintenance of the signal installation until the acceptance of a receipt drawn by the State indicating the items have been returned in good condition.

The Contractor shall safely store and arrange for pick up or delivery of all equipment to be returned to agencies other than the State. The Contractor shall package the equipment and provide all necessary documentation as stated above.

Traffic signal equipment which is lost or not returned to the Department for any reason shall be replaced with new equipment meeting the requirements of these Specifications at no cost to the contract.

ABANDON EXISTING CULVERT

Description. This work shall include all labor, material, and equipment necessary for the abandonment of existing culvert(s) and existing drainage pipe(s) at location(s) shown on the Engineering Plans, in accordance with the first paragraph of Article 550.05 of the Standard Specifications, as directed by the Engineer, and as specified herein.

General. The Contractor shall furnish and place abandonment materials, and all incidental parts meeting the dimensions and angles of the details in the Plans.

Method of Measurement. This work will be measured in place per each for ABANDON EXISTING CULVERT.

Basis of Payment. This work will be paid for at the contract unit price per each for ABANDON EXISTING CULVERT, which price shall be payment in full for all equipment, labor, materials, fabrication, excavation and backfilling, dewatering, bedding, filling, construction and all incidentals required to construct the complete ABANDON EXISTING CULVERT to the dimensions and grades shown on the Plans.

HEADWALL REMOVAL

Description. This work shall consist of the removal and disposal of existing concrete headwalls at various locations as shown in the plans. This work shall be done in accordance with the applicable portions of Sections 202 and 501 of the Standard Specifications.

Method of Measurement. HEADWALL REMOVAL will be measured for payment per each headwall removed and disposed.

Basis of Payment. This work will be paid for at the contract unit price per each for HEADWALL REMOVAL, which price shall include the complete removal and disposal of the existing headwall, and all materials, labor, tools and equipment, and backfilling of any excavation at locations shown in the plans, as specified herein, and as directed by the Engineer.

REMOVE EXISTING SIGN POST

Description. This work shall consist of removing existing sign posts that do not have sign panels attached. These supports consist of telescoping steel, channel, or wood posts, including any hardware, that have not been addressed by a Sign Panel Removal.

Method of Measurement. REMOVE EXISTING SIGN POST will be measured for payment per each.

Basis of Payment. This work will be paid for at the contract unit price each of REMOVE EXISTING SIGN POST, which price shall include the complete removal of the signpost, including any foundation and base plate if present.

CLEANING EXISTING MANHOLE OR HANDHOLE

Description. This item consists of cleaning an existing handhole, manhole or communications vault for the installation of new conduit(s) and/or cable(s).

General Requirements. General requirements must be in accordance with Section 801 of the Standard Specifications, except as herein modified.

Installation. Existing cable hooks must be relocated and existing cables must be retrained as required prior to drilling the existing manhole or handhole. Existing and new debris must be removed and disposed of off-site by the Contractor. Existing and new gas and water must be pumped out as directed by the Engineer. Debris removal, de-gassing and water pumping must be included in this item; separate payment will not be made.

The Contractor must furnish and install cable racks and/or cable hooks for new and existing cables in all manholes and handholes as required to facilitate new cable installation. This Work must be included in this item and separate payment will not be made.

Coordination with ComEd for ComEd handholes or manholes must be performed by the Contractor prior to starting any Work. Coordination must be included in this item; separate or additional payment will not be made.

Drilling the existing manhole or hand hole will not be included in this item and will be paid for under the "DRILL EXISTING HANDHOLE" pay item.

Method of Measurement. Each manhole or hand hole that is cleaned (relocating existing cable hooks, installing new cable hooks, retraining cables, removing debris, and pumping out gas and water) as indicated will be counted as a unit for payment. Each handhole, manhole or communications vault that is drilled will be measured for payment for cleaning, and will be measured for cleaning only once.

Basis of Payment. This work will be paid for at the contract unit price each for CLEANING EXISTING MANHOLE OR HANDHOLE, which will be payment in full for performing the work described herein.

STABILIZED CONSTRUCTION ENTRANCE

Description. This work consists of constructing, maintaining and removing a stabilized pad of course aggregate underlain with geotechnical fabric at the locations where construction traffic will be entering and leaving the work zone. The locations of the stabilized pad are subject to the approval of the Engineer. Also included is the removal and satisfactory disposal of the stabilized construction entrance when no longer required. This work shall be performed in accordance with the applicable portions of Sections 202, 210, 1004 and 1080 of the Standard Specifications, the details in the plans or as directed by the Engineer.

Materials. Aggregate shall consist of course aggregate gradations CA-1, CA-2, CA-3, or CA-4 meeting the requirements of Article 1004.04. Aggregate thickness shall be as detailed on the plans.

Geotechnical fabric shall meet the requirements of Article 1080.02.

General. Excess or unsuitable excavated materials shall be disposed of in accordance with Article 202.03.

The course aggregate surface coarse shall be compacted to the satisfaction of the Engineer.

Restoration will be paid for separately under applicable pay items.

Method of Measurement. The stabilized construction entrance will be measured in place and the area computed in square yards.

Basis of Payment. This work will be paid for at the contract unit price per square yard for STABILIZED CONSTRUCTION ENTRANCE, which price shall be payment in full for all excavation, except excavation in rock; removal and disposal of excavated materials; geotechnical fabric; furnishing, placing, compacting, and disposing of coarse aggregate; and for all labor, tools and equipment necessary to construct the work as specified.

EMERGENCY DETOUR SIGNING

Description. This work shall consist of furnishing, erecting, maintaining, storing, and ultimately removing Contract needed signs, devices and changeable message signs necessary for the Emergency Detour Route according to the details shown in the plans. This shall include any devices and signs needed to close ramps. This shall also include any devices and signs to place full closures if required.

Signs, devices and changeable message signs for the Emergency Detour Route shall remain in place for the duration of the project. Once notified of the need for Emergency Detour Route by the Engineer or Corridor Manager, the Contractor shall have ten minutes to switch traffic to the active Emergency Detour Route signing by activating the appropriate changeable message sign information. The Contractor has thirty minutes to implement any additional signing or devices required for the Emergency Detour Route.

Changeable message boards shall be used to inform the public of the route change as shown in the plans and as directed by the Engineer. Message boards shall be in caution mode when no emergency is happening.

When the use of the Emergency Detour Route is no longer required for the incident, the Contractor shall have ten minutes to switch appropriate changeable message sign information to caution mode once notified by the Engineer or Corridor Manager. The Contractor then shall have one hour to adjust signing and devices put in place for the Emergency Detour Route. Traffic shall be back in its configuration prior to the Emergency Detour Route implementation within one hour of the Contractor being notified that the route is no longer needed.

If the closure is anticipated to be in place for longer than 12 hours, full closures shall be put in place. Traffic Control and Protection standards 701400, 701401 and District Detail 36.1 should be followed for full closures with the exception of the FLAGGER sign and flaggers.

At each location that could be closed during an emergency the Contractor shall have 20 barrels and 5 Type III barricades. These shall remain at the locations through the duration of the contract.

The Contractor shall be aware that the Emergency Detour Route for this contract (64R71 – Harrison Road DDI) will supersede the Emergency Detour Route for a previously let contract (64B13 – System Interchange). Contractors for both 64R71 and 64B13 shall coordinate an agreed date for the transition of Emergency Detour Route from 64B13 to 64R71, such that there is no gap in Emergency Detour Route signing and maintenance.

The Contractor shall supply to the Engineer and Corridor Manager the names and telephone numbers of their representatives on the construction site and their representative responsible for the detour prior to the start of the work.

Method of Measurement. This work will be measured as lump sum.

Basis of Payment. This work shall be paid for at the contract lump sum price for DETOUR SIGNING which shall include the cost of all labor, equipment, signs, devices, changeable message boards, storage, handling, and materials necessary to perform said work. No additional compensation will be allowed.

DRAINAGE STRUCTURES TO BE ADJUSTED

Description. This work shall include all labor, material, and equipment necessary for the adjustment of drainage structure/box at locations shown on the Plans in accordance with Section 602 of the Standard Specifications and as specified herein.

General. This work shall consist of the complete adjustment of an existing drainage structure/box as shown on the Plans. The existing material surrounding the structure to be adjusted shall be removed by a means of a straight saw cut and replaced in kind to the limits as directed by the Engineer.

Method of Measurement. This work will be measured in place per each for DRAINAGE STRUCTURES TO BE ADJUSTED.

Basis of Payment. This work will be paid for at the Contract unit price per each for DRAINAGE STRUCTURES TO BE ADJUSTED, which price shall be payment in full for all work as specified.

DRAINAGE STRUCTURE TO BE REMOVED

Description. This work shall include all labor, material, and equipment necessary for the removal of drainage underdrain structure/headwall outlets at locations shown on the Plans in accordance with Section 602 of the Standard Specifications and as specified herein.

General. This work shall consist of the complete removal of an existing drainage underdrain structure/headwall as shown on the Plans. The Contractor shall completely remove and haul away the existing materials. For locations where the removal is outside of proposed grading, the void left shall be filled with TRENCH BACKFILL, paid for separately.

Method of Measurement. This work will be measured in place per each for DRAINAGE STRUCTURE TO BE REMOVED.

Basis of Payment. This work will be paid for at the Contract unit price per each for DRAINAGE STRUCTURE TO BE REMOVED, which price shall be payment in full for all work as specified.

FENCE REMOVAL

Description. This work shall consist of the complete removal and disposal of existing fence in locations as shown on the Plans or as directed by the Engineer from the project site regardless of the fence type.

General. The Contractor shall remove all components of the existing fence including any concrete used to anchor fence posts, bracing guy wires, posts, and/or gates. All removed materials shall be disposed of outside the limits of the right-of-way according to Article 202.03.

Fence sections to remain in place shall be left in a sound stable condition. The Contractor shall replace any fence sections to remain damaged during the removal process without additional payment.

This work also includes restoration of holes and surfaces disturbed during removal.

Method of Measurement. This work will be measured for payment in feet, along the top of the existing fence to be removed including any length occupied by gates.

Basis of Payment. This work will be paid for at the contract unit price per foot for FENCE REMOVAL. The unit price shall include all equipment, materials and labor required to remove and dispose of the fence and restore the affected area.

PROPERTY MARKERS

Effective: July 1, 1994

Revised: January 30, 2008

Description. This work shall consist of locating, protecting and relocating property markers, monuments or pins which are discovered and which will be disturbed in the normal course of construction. An Illinois Registered Land Surveyor will relocate the markers, monuments or pins to the new or relocated right-of-way line in such a location as to legally define the location of the new or reestablished property corner(s). The Contractor shall be required to furnish one copy of the final plat or plats to the State upon completion of the work.

The Surveyor shall place as a minimum a 36" x 3/4" round iron pin for the property marker. This work will be paid for at the contract unit price per each for PROPERTY MARKERS.

GEOTECHNICAL REINFORCEMENT

Effective: June 17, 2022

Revised: April 10, 2014

This work consists of furnishing and installing an integrally-formed polypropylene geotechnical grid reinforcement material. The geogrid shall have an aperture, rib and junction cross section sufficient to permit significant mechanical interlock with the material being reinforced. There shall be a high continuity of tensile strength through all ribs and junctions of the grid material to reinforce the subbase or subgrade as shown on the Plans and specifications.

MATERIAL CHARACTERISTICS	TEST METHOD	DATA
polymer type		polypropylene
Ultra violet stability	ASTM D 4355	50%

DIMENSIONAL CHARACTERISTICS	TEST METHOD	UNIT	DATA
open area	CW 02215	%	75 (max.)
unit weight	ASTM D 5261	oz/yd ²	5.0 (min.)

TECHNICAL CHARACTERISTICS	TEST METHOD	UNIT	DATA
junction efficiency	GRI-GG2	%	90 (min.)

The supplier should provide a certification that their product meets the above requirements.

The geotechnical reinforcement shall be placed as described herein or as shown on the typical sections.

Geogrid shall be delivered to the jobsite in such a manner as to facilitate handling and incorporation into the work without damage. Material shall be stored in such a manner as to prevent exposure to direct sunlight and damage by other construction activities.

Prior to the installation of the geogrid, the application surface shall be cleared of debris, sharp objects and trees. Tree stumps shall be cut to the level of the ground surface. If the stumps cannot be cut to the ground level, they shall be completely removed. In the case of subgrades, all wheel tracks or ruts in excess of 3 inches in depth shall be graded smooth or otherwise filled with soil to provide a reasonably smooth surface.

The geotechnical reinforcement shall be placed with the "roll length" parallel to the pavement. Fabric of insufficient width or length to fully cover the specified area shall be lapped a minimum of 24 inches. The geogrid should be secured in place.

Installation: The granular blanket shall be constructed to the width and depth required on the plans. Unless otherwise specified, the material shall be back-dumped on the Geogrid in a sequence of operations beginning at the outer edges of the treatment area with subsequent placement towards the middle.

Placement of material on the Geogrid shall be accomplished by spreading dumped material off of previously placed material with a bulldozer blade or endloader, in such a manner as to prevent tearing or shoving of the Geogrid. Dumping of material directly on the Geogrid will only be permitted to establish an initial working platform. No construction equipment shall be allowed on the Geogrid prior to placement of the subgrade aggregate. If the geogrid develops wrinkles or moves significantly, an alternative method of securing it shall be used.

Unless otherwise specified in the Plans or Special Provisions, the granular material, shall be placed to the full required thickness and compacted to the satisfaction of the Engineer.

Geogrid which is damaged during installation or subsequent placement of granular material, due to failure of the Contractor to comply with these provisions, shall be repaired or replaced at their expense, including costs of removal and replacement of the granular material.

Torn Geogrid may be patched in-place by cutting and placing a piece of the same Geogrid over the tear. The dimensions of the patch shall be at least 2 feet larger than the largest dimension of the tear and it shall be weighted or otherwise secured to prevent the granular material from causing lap separation.

Method of Measurement: Geotechnical Reinforcement will be measured in square yards for the surface area placed. The excavation, replacement and compaction of the granular layer shall be paid for separately.

Basis of Payment: This work will be measured in place and the area computed in square yards. The work will be paid for at the contract unit price per square yard for GEOTECHNICAL REINFORCEMENT.

MAINTAIN EXISTING LIGHTING SYSTEM (ILLINOIS TOLLWAY)

Effective Date: March 1, 2023

Description. This work shall consist of furnishing all labor, equipment, and incidental materials for maintaining roadway lighting systems, parking lot lighting system, and sign lighting systems until the proposed new systems are installed, energized, tested, and accepted for operation by the Illinois Tollway. This work shall include both the existing system and any temporary system.

Temporary lighting controllers, light poles, mast arms, luminaires, conductors, and conduit sleeves shall be paid as separate pay items when part of initial installation of temporary lighting systems. This work shall include all other necessary temporary devices required to maintain existing roadway illumination. All temporary lighting materials shall be furnished, installed, terminated, and maintained in service until the proposed lighting systems are installed, tested, and accepted for operation by the Illinois Tollway. All repair work required under maintenance terms shall reinstate the temporary lighting back to full compliance with the design of the system including all parts and components. The location and protection of all temporary devices necessary to comply with these requirements shall be subject to the approval of the Engineer.

Where removal of existing sign lighting equipment is required before new sign lighting equipment can be installed, the new sign lighting system shall be put in operation within three (3) calendar days from the time the existing system is de-energized for removal.

Where existing signs that require lighting are being replaced with new sign panels that do not require sign lighting, the existing sign lighting must remain in service until the new sign panels are installed. When the new sign panels are installed, the existing sign lighting system, including all conduit, wire, ballasts, circuit breakers, wireways, and luminaire support brackets shall be removed. Supply cables shall be disconnected and removed to their source.

All materials shall be furnished and delivered by the Contractor to the jobsite at no additional cost to the Illinois Tollway.

Effective the date the Contractor's activities (electrical or otherwise) at the job site begin, the Contractor shall be responsible for the proper operation and maintenance of all existing and proposed lighting systems which are part of, or which may be affected by the work until final acceptance or as otherwise determined by the Engineer.

Before performing any excavation, removal, or installation work (electrical or otherwise) at the site, the Contractor shall initiate a request for a maintenance transfer and preconstruction inspection, as specified elsewhere herein, to be held in the presence of the Engineer and a representative of the party or parties responsible for maintenance of any lighting systems which may be affected by the work. The request for the maintenance preconstruction inspection shall be made no less than seven (7) calendar days prior to the desired inspection date.

Existing lighting systems, when depicted on the plans, are intended only to indicate the general equipment installation of the systems involved and shall not be construed as an exact representation of the field conditions. It remains the Contractor's responsibility to visit the site to confirm the exact condition of the electrical equipment and systems to be maintained.

Maintenance of Existing Lighting System. Existing lighting systems shall be defined as any permanent or temporary lighting system or part of a permanent or temporary lighting system in service prior to the contract that may be affected by the work of the contract. It remains the Contractor's responsibility to visit the site and ascertain the extent of effort required for compliance with these specifications and failure to do so will not be justification for extra payment or reduced responsibilities.

Maintenance of Proposed Lighting System. Proposed lighting systems shall be defined as any lighting system or part of a lighting system which is to be constructed under the contract.

Extent of Maintenance. The Contractor shall maintain all controllers and all circuits connected to the controllers that are affected by the contract. This may include controllers and circuits that extend outside the nominal contract limits identified in the contract documents. There is no "Partial Maintenance" of an Illinois Tollway lighting controller.

Maintenance Responsibility. The Contractor shall be fully responsible for maintenance of all existing and proposed lighting systems under this contract. Maintenance shall include, but not be limited to, any equipment failures or malfunctions as well as equipment damage either by the motoring public, Contractor operations, or other means. The potential cost of replacing or repairing any malfunctioning or damaged equipment shall be included in the bid price of this item and will not be paid for separately. All required lane closures or shoulder closures to maintain the existing lighting equipment, temporary equipment, or interim lighting equipment shall be included in the bid price of this item and will not be paid for separately. All required lane closures or shoulder

closures shall be in accordance with the allowable hours permitted in the contract documents, unless the lighting work is deemed essential be the Engineer.

The Contractor's responsibility shall include the maintenance of lighting units (including sign lighting), cable runs and lighting controls. In the case of a pole knockdown or sign light damage caused by normal vehicular traffic, the Contractor shall promptly clear the lighting unit and circuit discontinuity and restore the system to service. Aluminum poles shall not be left to stand unloaded for any length of time.

Responsibilities shall also include weekly night-time patrol of the lighting system, with patrol reports filed immediately with the Engineer and with deficiencies corrected within 24 hours of the patrol. Patrol reports shall be presented on standard forms as designated by the Engineer. Uncorrected deficiencies may be designated by the Engineer as necessitating emergency repairs as described elsewhere herein.

The following chart lists the maximum response, service restoration, and permanent repair time the Contractor will be allowed to perform corrective action on specific lighting system equipment.

INCIDENT OR PROBLEM	SERVICE RESPONSE TIME	SERVICE RESTORATION TIME	PERMANENT REPAIR TIME
Control cabinet out	1 hour	4 hours	7 Calendar days
Hanging mast arm	1 hour to clear	N/A	7 Calendar days
Motorist caused knockdown, damaged or leaning light pole 10 degrees or more	1 hour to clear	4 hours	7 Calendar days
Circuit out – Needs to reset breaker	1 hour	4 hours	N/A
Circuit out – Cable trouble	1 hour	24 hours	21 Calendar days
Outage of 3 or more successive lights	1 hour	4 hours	N/A
Outage of light nearest Plazas and gores	1 hour	4 hours	N/A
Outage (single or multiple) found on night outage survey or reported to Illinois Tollway	N/A	N/A	7 Calendar days
Navigation light outage	N/A	N/A	24 hours

Service Response Time -- amount of time from the initial notification to the Contractor until a patrolman physically arrives at the location.

Service Restoration Time – amount of time from the initial notification to the Contractor until the time the system is fully operational again (In cases of motorist caused damage the undamaged portions of the system are operational.)

Permanent Repair Time – amount of time from initial notification to the Contractor until the time permanent repairs are made if the Contractor was required to make temporary repairs to meet the service restoration requirement.

Liquidated Damages.

- (a) Non-Compliance. The Contractor will be subject to liquidated damages of \$1,000.00 per incident, per day, to be deducted from next pay estimate due Contractor, for each occurrence when Engineer determines that Contractor or his Subcontractor is not in full compliance with this Article.
- (b) Failure to Respond. The Contractor is required to respond in accordance with the requirements of Article 846.05. Failure by Contractor to so respond shall be grounds for liquidated damages of \$1,000.00 for each and every occurrence, to be deducted from next pay estimate due Contractor.

In addition, the Illinois Tollway reserves the right to assign any work not completed within this timeframe to the Illinois Tollway Electrical Maintenance Department. All costs associated to repair this uncompleted work shall be the responsibility of the Contractor. These costs will be deducted from next pay estimate due Contractor.

Repeated failures and/or a gross failure of maintenance shall result in the Illinois Tollway's Electrical Maintenance Department being directed to correct all deficiencies and the resulting costs will be deducted from any monies owed the Contractor.

Damage caused by the Contractor's operations shall be repaired at no additional cost to the contract.

Operation of Lighting. The lighting shall be operational every night, dusk to dawn. Duplicate lighting systems (such as temporary lighting and proposed new lighting) shall not be operated simultaneously. Lighting systems shall not be kept in operation during long daytime periods. The Contractor shall demonstrate to the satisfaction of the Engineer that the lighting system is fully operational prior to submitting a pay request. Failure to do so will be grounds for denying the pay request.

Maintenance Transfer and Preconstruction Inspection. Before performing any excavation, removal, or installation work (electrical or otherwise) at the site, the Contractor shall request a maintenance transfer and preconstruction site inspection, to be held in the presence of the Engineer and a representative of the party or parties responsible for maintenance of any lighting and/or traffic control systems which may be affected by the work. The request for the maintenance transfer and preconstruction inspection shall be made no less than seven (7) calendar days prior to the desired inspection date. The maintenance transfer and preconstruction inspection shall:

- (a) Establish the procedures for formal transfer of maintenance responsibility required for the construction period.
- (b) Establish the approximate location and operating condition of lighting and/or traffic control systems which may be affected by the work.
- (c) Establish the condition of lighting and/or traffic control systems which may be affected by the work.

The Contractor shall conduct an inventory of all existing electrical system equipment within the project limits, which may be affected by the work, making note of any parts which are found broken or missing, defective or malfunctioning. Megger and load readings shall be taken for all existing circuits which will remain in place or be modified. If a circuit is to be taken out in its entirety, then readings do not have to be taken. The inventory and test data shall be reviewed with and approved by the Engineer and a record of the inventory shall be submitted to the Engineer for the record. Without such a record, all systems transferred to the Contractor for maintenance during construction shall be returned at the end of construction in complete, fully operating condition.

The Engineer shall make note of any defects needing repair identified by the party responsible for maintenance. Any defects whose repair is not included in the contract plans shall be brought to the attention of the Tollway Project Manager and considered for repair under an allowance pay item, if applicable, or according to Article 109.04 of the Illinois Tollway Supplemental Specifications.

Temporary Wiring. Temporary wiring suspended between poles shall be installed a minimum of 20' above grade to limit access to people on site. At existing light poles the pole cap shall be removed and temporary wiring shall enter the pole at the top. The wiring shall extend down the inside of the pole and be connected to the existing wiring in the base of the pole. A temporary pole cap shall be provided to limit rain from entering the pole. The original pole cap shall be reinstalled after the temporary wiring has been removed. Temporary wiring shall not be wrapped around the pole or connected through the pole handhole. Temporary wiring shall not be routed under the base of the pole. All handhole covers must be installed and in place at all times.

Temporary wiring shall be limited to one four conductor aerial cable assembly (#2 AWG maximum) between adjacent poles to replace an underground feeder or a single assembly running perpendicular to the roadway to provide power to median lighting during roadway widening. In no case shall more than one aerial cable assembly be attached to an existing light pole without prior approval of the Illinois Tollway.

Temporary aerial wiring shall not be attached to poles with breakaway bases. Wall mounted light poles that do not typically include breakaway devices must be checked for slip-fitter frangible bases before attaching aerial cable.

Marking of Existing Cable Systems. The party responsible for maintenance of any existing lighting, communication, and/or traffic control systems at the project site will, at the Contractor's request, mark and/or stake, once per location, all underground cable routes owned or maintained by the respective party. A project may involve multiple "locations" where separated electrical systems are involved.

The markings shall be taken to have a horizontal tolerance of at least one foot to either side. The request for the cable locations and marking shall be made in sufficient time in advance of the request for the maintenance transfer and preconstruction inspection to allow the markings to be completed before the preconstruction site inspection date.

The Contractor shall exercise extreme caution where existing buried cable runs are involved. The markings of existing systems are made strictly for assistance to the Contractor and this does not relieve the Contractor of responsibility for the repair or replacement of any cable run damaged in the course of his work, as specified elsewhere herein.

NOTE THAT THE CONTRACTOR SHALL BE ENTITLED TO ONLY ONE REQUEST FOR LOCATION MARKING OF EXISTING SYSTEMS AND THAT MULTIPLE REQUESTS MAY ONLY BE HONORED AT THE CONTRACTOR'S EXPENSE. NO LOCATES WILL BE MADE AFTER MAINTENANCE IS TRANSFERRED, UNLESS IT IS AT THE CONTRACTOR'S EXPENSE.

Removal of Temporary Lighting. Disconnection and removal of all temporary lighting systems shall be in accordance with the requirements of Section 841. The cost for the removal of all temporary lighting equipment shall be considered as included in the cost for MAINTAIN LIGHTING SYSTEM.

Return of Maintenance. Following the completion of all contract electrical work and all electrical punch list items required lighting maintenance to complete, the Contractor shall request a maintenance transfer and final acceptance inspection, to be held in the presence of the Engineer and a representative of the party taking maintenance (Illinois Tollway Roadway Electric or a subsequent Contractor). The request for the maintenance transfer and final acceptance inspection shall be made no less than seven (7) calendar days prior to the desired inspection date. The Contractor shall provide an up- to-date copy of their electrical as-builts as required by section 801.16 to the party taking maintenance at the time of their request. The maintenance transfer and final acceptance inspection shall:

- (a) Verify the satisfactory completion of all electrical work to the applicable standards and contract requirements;
- (b) Document remaining punch list items, if any, which must be completed before maintenance can be transferred;
- (c) Document remaining punch list items, if any, which must be completed before final acceptance, but do not require ongoing maintenance;
- (d) In a contractor to contractor transfer, establish the warranty responsibilities of the Contractor transferring maintenance in the event of later discovery of outstanding issues.

The return of maintenance shall be documented on an A-25A or A-25C form, as applicable.

Method of Measurement. This work will not be measured for payment.

Basis of Payment. This work will be paid for at the Contract lump sum price for MAINTAIN LIGHTING SYSTEM.

MAINTENANCE OF LIGHTING SYSTEMS

Replace Article 801.11 and 801.12 of the Standard Specifications with the following:

Effective the date the Contractor's activities (electrical or otherwise) at the job site begin, the Contractor shall be responsible for the proper operation and maintenance of all existing and proposed lighting systems which are part of, or which may be affected by the work until final acceptance or as otherwise determined by the Engineer.

Before performing any excavation, removal, or installation work (electrical or otherwise) at the site, the Contractor shall initiate a request for a maintenance transfer and preconstruction inspection, as specified elsewhere herein, to be held in the presence of the Engineer and a representative of the party or parties responsible for maintenance of any lighting systems which may be affected by the work. During the maintenance preconstruction inspection, the party responsible for existing maintenance shall perform testing of the existing system in accordance with Article 801.13a. The Contractor shall request a date for the preconstruction inspection no less than fourteen (14) days prior to the desired date of the inspection.

The Engineer will document all test results and note deficiencies. All substandard equipment will be repaired or replaced by the existing maintenance Contractor, or the Engineer can direct the Contractor to make the necessary repairs under Article 109.04.

Existing lighting systems, when depicted on the Plans, are intended only to indicate the general equipment installation of the systems involved and shall not be construed as an exact representation of the field conditions. It remains the Contractor's responsibility to visit the site to confirm and ascertain the exact condition of the electrical equipment and systems to be maintained. Contract documents shall indicate the circuit limits.

Maintenance of Existing Lighting Systems

Existing lighting systems. Existing lighting systems shall be defined as any lighting system or part of a lighting system in service at the time of contract Letting. The contract drawings indicate the general extent of any existing lighting, but whether indicated or not, it remains the Contractor's responsibility to ascertain the extent of effort required for compliance with these specifications and failure to do so will not be justification for extra payment or reduced responsibilities. The contractor shall locate existing facilities when requested within two working days.

Extent of Maintenance.

Partial Maintenance. Unless otherwise indicated, if the number of circuits affected by the contract is equal to or less than 40% of the total number of circuits in a given controller and the controller is not part of the contract work, the Contractor needs only to maintain the affected circuits within the project limits. The project limits are defined as those limits indicated in the contract Plans. Equipment outside of the project limits, on the affected circuits shall be maintained and paid for under Article 109.04. The affected circuits shall be isolated by means of in-line waterproof fuse holders as specified elsewhere and as approved by the Engineer. The unaffected circuits and the controller will remain under the maintenance of the State.

Full Maintenance. If the number of circuits affected by the contract is greater than 40% of the total number of circuits in a given controller, or if the controller is modified in any way under the contract work, the Contractor shall maintain the entire controller and all associated circuits within the project limits. Equipment outside of the project limits shall be maintained and paid for under Article 109.04.

If the existing equipment is damaged by normal vehicular traffic, not Contractor operations, is beyond repair and cannot be re-set, the Contractor shall replace the equipment in kind with payment made for such equipment under Article 109.04. If the equipment damaged by any construction operations, not normal vehicular traffic, is beyond repair and cannot be re-set, the Contractor shall replace the equipment in kind and the cost of the equipment shall be included in the cost of this pay item and shall not be paid for separately.

Maintenance of Proposed Lighting Systems

Proposed Lighting Systems. Proposed lighting systems shall be defined as any lighting system or part of a lighting system, temporary or permanent, which is to be constructed under this contract regardless of the project limits indicated in the Plans.

The Contractor shall be fully responsible for maintenance of all items installed under this contract. Maintenance shall include, but not be limited to, any equipment failures or malfunctions as well as equipment damage either by the motoring public, Contractor operations, vandalism, or other means. The potential cost of replacing or repairing any malfunctioning, damaged, or vandalized equipment shall be included in the bid price of this item and will not be paid for separately. The contractor shall locate existing facilities when requested within two working days.

Lighting System Maintenance Operations

The Contractor's responsibility shall include all applicable responsibilities of the Electrical Maintenance Contract, State of Illinois, Department of Transportation, Division of Highways, District Two. These responsibilities shall include the maintenance of lighting units (including sign lighting), cable runs and lighting controls. In the case of a pole knockdown or sign light damage, the Contractor shall promptly clear the lighting unit and circuit discontinuity and restore the system to service. The equipment shall then be re-set by the Contractor within the time limits specified herein.

If the existing equipment is damaged by normal vehicular traffic, not Contractor operations, is beyond repair and cannot be re-set, the Contractor shall replace the equipment in kind with payment made for such equipment under Article 109.04. If the equipment damaged by any construction operations, not normal vehicular traffic, is beyond repair and cannot be re-set, the Contractor shall replace the equipment in kind and the cost of the equipment shall be included in the cost of this pay item and shall not be paid for separately.

Responsibilities shall also include weekly night-time patrol of the lighting system, with patrol reports filed immediately with the Engineer and with deficiencies corrected within 24 hours of the patrol. Patrol reports shall be presented on standard forms as designated by the Engineer. Uncorrected deficiencies may be designated by the Engineer as necessitating emergency repairs as described elsewhere herein.

The following chart lists the maximum response, service restoration, and permanent repair time the Contractor will be allowed to perform corrective action on specific lighting system equipment.

INCIDENT OR PROBLEM	SERVICE RESPONSE TIME	SERVICE RESTORATION TIME	PERMANENT REPAIR TIME
Control cabinet out	1 hour	4 hours	7 Calendar days
Hanging mast arm	1 hour to clear	na	7 Calendar days
Motorist caused damage or leaning light pole 10 degrees or more	1 hour to clear	4 hours	7 Calendar days
Light tower collapse	1 hour	na	7 Calendar days
Circuit out – Needs to reset breaker	1 hour	4 hours	na
Circuit out – Cable trouble	1 hour	24 hours	21 Calendar days
Outage of 3 or more successive lights	1 hour	4 hours	na
Outage of 75% of lights on one tower	1 hour	4 hours	na
Outage of light nearest RR crossing approach, Islands and gores	1 hour	4 hours	na
Outage (single or multiple) found on night outage survey	na	na	7 Calendar days

- **Service Response Time** -- amount of time from the initial notification to the Contractor until a patrolman physically arrives at the location.
- **Service Restoration Time** – amount of time from the initial notification to the Contractor until the time the system is fully operational again (In cases of motorist caused damage the undamaged portions of the system are operational.)
- **Permanent Repair Time** – amount of time from initial notification to the Contractor until the time permanent repairs are made if the Contractor was required to make temporary repairs to meet the service restoration requirement.

Failure to provide this service will result in liquidated damages of \$500 per day per occurrence. In addition, the Department reserves the right to assign any work not completed within this timeframe to the Electrical Maintenance Contractor. All costs associated to repair this uncompleted work shall be the responsibility of the Contractor. Failure to pay these costs to the Electrical Maintenance Contractor within one month after the incident will result in additional liquidated damages of \$500 per month per occurrence. Unpaid bills will be deducted from any monies owed to the Contractor. Repeated failures and/or a gross failure of maintenance shall result in the State's Electrical Maintenance Contractor being directed to correct all deficiencies and the resulting costs deducted from any monies owed to the Contractor.

Damage caused by the Contractor's operations shall be repaired at no additional cost to the Contract.

The Contractor shall be responsible for locating the lighting system when requested.

Operation of Lighting

The lighting shall be operational every night, dusk to dawn. Duplicate lighting systems (such as temporary lighting and proposed new lighting) shall not be operated simultaneously. Lighting systems shall not be kept in operation during long daytime periods.

Method of Measurement. The Contractor shall demonstrate to the satisfaction of the Engineer that the lighting system is fully operational prior to submitting a pay request. Failure to do so will be grounds for denying the pay request. Months in which the lighting systems are not maintained and not operational will not be paid. Payment shall not be made retroactively for months in which lighting systems were not operational.

Basis of Payment. This work shall be paid for at the contract unit price per calendar month for MAINTENANCE OF LIGHTING SYSTEM.

OPTIMIZE TRAFFIC SIGNAL SYSTEM

This work shall consist of providing a revised Signal Coordination and Timing (SCAT) Report and implementing optimized timings to an existing previously optimized closed loop traffic signal system. This work is required due to the addition of a signalized intersection to an existing system or a modification of an existing signalized intersection, which affects the quality of an existing system's operation. MAINTENANCE OF THE SUBJECT INTERSECTION SHALL NOT BE ACCEPTED BY THE DEPARTMENT UNTIL THE OPTIMIZED TIMINGS ARE IMPLEMENTED AND THE SIGNALS ARE FUNCTIONING TO THE SATISFACTION OF THE ENGINEER.

The traffic signal system to be optimized includes the following intersections:

- US Route 20 (Harrison Avenue) and S. Mall Drive.
- US Route 20 (Harrison Avenue) and S.B. Ent/Exit Ramp.
- US Route 20 (Harrison Avenue) and N.B. Ent/Exit Ramp.
- US Route 20 (Harrison Avenue) and Mill Road.

For the purposes of optimization work, an intersection shall include all traffic movements operated by the subject controller and cabinet.

The traffic signal system shall be optimized by an approved Consultant who has previous experience in optimizing Closed Loop Traffic Signal Systems for District 2 of the Illinois Department of Transportation. The Contractor shall contact the Area Traffic Signal Operations Engineer for a listing of approved Consultants. Traffic signal system optimization work, including fine-tuning adjustments of the optimized system, shall follow the requirements stated in the most recent IDOT District 2 SCAT Guidelines, if available, except as note herein.

A listing of existing signal equipment, interconnect information and existing phasing/timing patterns may be obtained from the Department if available and as appropriate. The existing SCAT Report is available for review at the District Two office (if one exists) and if the Consultant provides blank rewritable compact disks, copies containing software runs for the existing optimized system and a timing database that includes intersection displays will be made for the

Consultant. The Consultant shall consult with the Area Traffic Signal Operations Engineer prior to optimizing the system to determine if any extraordinary conditions exist that would affect traffic flows in the vicinity of the system; in which case, the Consultant may be instructed to wait until the conditions return to normal or to follow specific instructions regarding the re-optimization.

Appropriate signal timings shall be developed for the subject intersection and existing timings shall be utilized for the rest of the intersections in the system. Proposed signal timing plan for the new or modified intersection(s) shall be forwarded to IDOT for review prior to implementation. Consultant shall conduct on-site implementation of the timings at the turn-on and make fine-tuning adjustments to the timings of the subject intersection in the field to alleviate observed adverse operating conditions and to enhance operations.

Traffic counts shall be taken at the subject intersection after the traffic signals are approved for operation by the Area Traffic Signal Operations Engineer. Seven day/twenty-four hour automatic traffic recorder counts will be required and manual turning movement counts shall be conducted from 6:30 a.m. to 9:30 a.m., 11:00 a.m. to 1:00 p.m., and 3:30 p.m. to 6:30 p.m. on a typical weekday from midday Monday to midday Friday, and if necessary, on the weekend. Additional manual turning movement counts may be necessary if heavy traffic flows exist during off peak hours. The turning movement counts shall identify cars, and single-unit, multi-unit heavy vehicles, transit buses, and pedestrian/bicyclist movements.

As necessary, the intersections shall be re-addressed and all system detectors reassigned in the master controllers according to the current standard of District Two.

A Capacity Analysis shall be conducted at the subject intersection to determine its level of service and degree of saturation. Appropriate signal timings shall be developed for the subject intersection and existing timings shall be utilized for the rest of the intersections in the system with minor adjustments if necessary. Changes to the cycle lengths and offsets for the entire system may be required due to the addition/modification of the subject intersection. Both volume and occupancy shall be considered when developing the re-optimized timing program. Signal system optimization analyses shall be conducted utilizing PASSER II, TRANSYT 7F, SIGNAL 85, SYNCHRO 6.0 or other appropriate approved computer software.

The following traffic signal timings are required:

- a. Confirm that all signals have minimum 4 second yellow and 2 second red and check that the formula meets latest MUTCD edition.
- b. "Zero out" all density times.
- c. Confirm pedestrian times meet MUTCD latest edition (3.5 seconds).
- d. Confirm minimum green times are 6 seconds on left turn, 8 seconds on side streets, and 10 seconds on main street.
- e. Confirm all detection is "non-locking".

All the intersections shall be re-addressed according to the current standard of District Two. The proposed signal timing plan shall be forwarded to IDOT for review and approval seven days prior to the traffic signal turn on at the intersection. The timing plan shall be implemented at least two

working days prior to the turn on of the traffic signal. The timing plan shall include a time-of-day program, which may be used as a back-up system. After downloading the system timings, the Consultant shall make fine tuning adjustments to the timing in the field to alleviate observed operating conditions and to enhance operations. The timing plans shall be re-evaluated after the signal has been turned on and traffic has had an opportunity to adjust to the new signal. Any necessary timing changes shall be made at that time with the approval of the Area Signal Engineer.

The following deliverables shall be required:

- Consultant shall furnish to IDOT a cover letter describing the extent of the re-optimization work performed.
- Consultant shall furnish an updated intersection graphic display for the subject intersection to IDOT and to IDOT's Traffic Signal Maintenance Contractor.
- Consultant shall furnish to IDOT one (1) copy of a technical memorandum for the optimized system. The technical memorandum shall include the following elements:
 - 1) Brief description of the project.
 - 2) Printed copies of the analysis output from Synchro (or other appropriate, approved optimization software file).
 - 3) Turning movement and automatic traffic recorder counts, capacity analyses for each count period, computer optimization analyses for each count period, proposed implementation plans and summaries including system description, analysis methodology, method of effectiveness comparison results and special recommendations and/or observations. The new report shall follow the format of the old report and shall incorporate all data from the old report which remains unchanged. Copies of the entire database including intersection displays and any other displays which the system software allows shall be furnished to the Department and to the Department's Traffic Signal Maintenance Contractor.
- Consultant shall furnish to IDOT two (2) CDs for the optimized system. The CDs shall include the following elements:
 - 1) Electronic copy of the technical memorandum in PDF format.
 - 2) Revised Synchro files (or other appropriate, approved optimization software file) including the new signal and the rest of the signals in the closed loop system.
 - 3) Traffic counts conducted at the subject intersection.
 - 4) New or updated intersection graphic display file for the subject intersection.
 - 5) The CD shall be labeled with the IDOT system number and master locations, as well as the submittal date and the consultant logo. The CD case shall include a clearly readable label displaying the same information securely affixed to the side and front.

Method of Measurement. This work will be measured for payment per system as each. A system will consist of all the intersections listed above.

Basis of Payment. This work will be paid for at the contract unit price per each for OPTIMIZE TRAFFIC SIGNAL SYSTEM.

STORM SEWER WATER MAIN REQUIREMENT

Effective: June 12, 1997

Description. This work shall consist of furnishing and installing water main quality pipe at the locations shown on the plans.

Materials.

- a) Ductile iron water main Class 52
Joints for ductile iron pipe shall be:
 - 1. Mechanical Joints – AWWA C111 and C600
 - 2. Push-On-Joints – AWWA C111 and C600
- b) Polyvinyl Chloride (PVC) Class 1245B (PVC 1120) or Class 12454C (PVC 1220).
Schedule 40 is required for 8" diameter and schedule 80 for larger sizes

Construction Requirements.

The storm sewer water main shall be installed according to the applicable portions of Section 550 and 561 of the Standard Specifications and the Standard Specifications for Water and Sewer Main Construction. In case of conflict between the Standard Specifications, the Standard Specifications for Water and Sewer Main Construction in Illinois shall take precedence and shall govern.

No testing or disinfections of the newly laid storm sewer water main will be required. A water tight connection is required between the storm sewer water main and the storm sewer.

Method of Measurement. Storm sewer water main of the various diameters will be measured for payment in feet, measured in place.

Basis of Payment. This work will be paid for at the contract unit price per foot for STORM SEWER WATER MAIN REQUIREMENT, of the diameter specified.

TEMPORARY PAVEMENT

This work shall consist of placing a Hot-Mix Asphalt Binder Course or Portland Cement Concrete Pavement (Jointed) with a stabilized subbase and aggregate subgrade improvement to serve as temporary pavement at the locations shown on the Plans along Harrison Avenue/US 20. The choice of material to be used for this item is left to the Contractor to choose from the following options:

HOT-MIX ASPHALT OPTION

This work shall consist of placing and compacting 12 inches of Aggregate Subgrade Improvement and constructing 9 inches of Hot-Mix Asphalt Binder Course along Harrison Avenue/US 20 and all ramps to serve as temporary pavement at the location shown on the Plans.

The hot-mix asphalt option shall be used for temporary pavement noted to be left in place on the east end of the project limits of Harrison Avenue/US 20.

Temporary shoulders shall be the same materials as the temporary traveled way pavement.

This work shall consist of designing, producing and constructing a HMA Binder Course on a prepared base, according to Sections 311, 406, 1030 and 1102 of the Standard Specifications, except as follows.

Refer to the plans for mixture requirements.

Required Field Tests. Density Acceptance at 95% - 102% of growth curve at the frequency indicated in Article 1030.05(d)(3).

PORTLAND CEMENT CONCRETE OPTION

This work shall consist of placing and compacting 12 inches of Aggregate Subgrade Improvement, 4 inches of Stabilized Subbase and constructing 8.75 inches of Concrete Base Course along Harrison Avenue/US 20 and all ramps to serve as temporary pavement at the locations shown on the Plans. The minimum width shall be 2 feet. This work shall be completed according to Sections 311, 312 and 420 of the Standard Specifications.

Temporary shoulders shall be the same materials as the temporary traveled way pavement.

Welded wire reinforcement shall not be utilized in the base course.

The Contractor shall saw longitudinal joints in base courses wider than 16 feet, according to Standard 420001, except that uncoated steel tie bars may be used instead of epoxy coated tie bars. These joints shall not be sealed.

The Contractor shall saw transverse joints in the base course at 20' centers according to the detail for Sawed Construction Joints in Standard 420001, except that dowel bars are not required. These joints shall not be sealed.

Existing sign panels and appurtenances that conflict with TEMPORARY PAVEMENT construction shall be temporarily relocated as specified in the plans and shall be included in the cost per square yard for TEMPORARY PAVEMENT.

All work, excluding earth excavation, and materials required to complete the work listed above shall be included in the contract unit cost per square yard for TEMPORARY PAVEMENT.

Method of Measurement. TEMPORARY PAVEMENT will be measured for payment in square yards in place.

Basis of Payment. All work as listed above, including tie bars, sawed joints, and all other required materials shall be included in the contract unit price per square yard for TEMPORARY PAVEMENT.

Removal shall be paid for separately under TEMPORARY PAVEMENT REMOVAL.

Earth excavation will be paid for separately under EARTH EXCAVATION. Earth excavation quantities for temporary pavement were calculated using the Portland Cement Concrete option unless stated otherwise above. If the Hot-Mix Asphalt option is used no adjustments will be made to the quantities.

TEMPORARY PAVEMENT (VARIABLE DEPTH)

Description. This work shall consist of constructing and maintaining temporary pavement placed over existing pavement as shown in the plans or directed by the Engineer.

General. The Contractor shall use either Portland Cement Concrete according to Sections 353 and 354 of the Standard specifications or Hot-Mix Asphalt according to Sections 355, 356 and 406 of the Standard Specifications, and other applicable special provisions contained herein. The Hot-Mix Asphalt mixtures to be used shall be as specified in the plans. The thickness of the Temporary Pavement shall be as described in the plans. The Contractor shall have the option of constructing either material type if both Portland Cement Concrete and Hot-Mix Asphalt are shown in the plans.

Articles 355.08 and 406.11 of the Standard Specifications shall not apply.

The removal of the temporary pavement as required, shall conform to Section 440 of the Standard Specifications.

Method of Measurement. Temporary pavement will be measured in place and the area computed in tons.

Basis of Payment. This work will be paid for at the contract unit price per ton for TEMPORARY PAVEMENT (VARIABLE DEPTH).

Removal of temporary pavement will be paid for under TEMPORARY PAVEMENT REMOVAL.

SLOTTED DRAIN 18" WITH VARIABLE SLOT

Description. This work consists of furnishing and installing slotted drains at the locations shown in the plans and all accessories (including concrete encasement and aggregate) required for connecting the slotted drain pipes and connections to drainage structures where necessary.

General. Slotted drain shall be corrugated steel pipe conforming with the applicable requirements of Section 542 of the Standard Specifications, the details shown in the plans, and as described herein. The slotted drain must be properly positioned in the trench prior to backfilling. The upper end of the drain shall be capped as directed by the Engineer. Once the slotted drain is backfilled, it should be covered prior to placing the final surfacing.

Method of Measurement. This work will be measured per foot in place.

Basis of Payment. This work will be paid for at the contract unit price for foot for SLOTTED DRAIN 18" WITH VARIABLE SLOT.

SLEEPER SLAB

Description. This work shall consist of constructing a sleeper slab (reinforced concrete grade beam) at the locations shown on the plans and as directed by the Engineer. This work shall be performed in accordance with the applicable portions of Section 420 of the Standard Specifications, the details in the plans and as herein specified.

Materials. Concrete shall be Class SI meeting the requirements of Section 1020. Reinforcement bars shall be Grade 60 and epoxy coated meeting the requirements of Section 1006.10.

Method of Measurement. This work will be measured in feet along the expansion joint. Reinforcement bars, polyethylene bond breaker, granular subbase, and preformed expansion joint filler shall not be paid for separately but shall be included in the unit price for the sleeper slab. Excavation, except excavation in rock, shall be paid as Earth Excavation.

Basis of Payment. This work will be paid for at the contract unit price per foot for SLEEPER SLAB, which price shall be payment in full for all materials, labor, and equipment necessary to complete the work as specified.

TEMPORARY TRAFFIC SIGNAL TIMING

Description. This work shall consist of developing and maintaining appropriate traffic signal timings for the specified intersections for the duration of the temporary signalized condition, as well as impact to existing traffic signal timings caused by detours or other temporary conditions.

All timings and adjustments necessary for this work shall be performed by an approved Consultant who has previous experience in optimizing Closed Loop Traffic Signal Systems for District 2 of the Illinois Department of Transportation. The Contractor shall contact the Traffic Signal Engineer, Scott Kullerstrand at (815) 284-5468 for a listing of approved Consultants.

The following tasks are associated with TEMPORARY TRAFFIC SIGNAL TIMING:

- a. Consultant shall attend temporary traffic signal inspection (turn-on) and conduct on-site implementation of the traffic signal timings. Make fine tuning adjustments to the timings in the field to alleviate observed adverse operating conditions and to enhance operations.
- b. Consultant shall provide monthly observation of traffic signal operations in the field.
- c. Consultant shall provide on-site consultation and adjust timings as necessary for construction stage changes, temporary traffic signal phase changes and any other conditions affecting timing and phasing, including lane closures, detours and other construction activities.
- d. Consultant shall make timing adjustments and prepare comment responses as directed by the Area Traffic Signal Operations Engineer.

Basis of Payment. The work shall be paid for at the contract unit price per each for TEMPORARY TRAFFIC SIGNAL TIMING, which price shall be payment in full for performing all work described herein per intersection, per stage. When the temporary traffic signal installation is turned on and/or detour implemented, 50% of the bid price will be paid. The remaining 50% of the bid price will be paid following the removal of the temporary traffic signal installation, stage shift, and/or detour.

CONSTRUCTION LAYOUT SPECIAL UTILIZING GPS EQUIPMENT

If the Contractor opts to utilize GPS equipment for Construction Layout, the Contractor shall be required to complete the following in addition to the requirements of the Recurring Special Provision Check Sheet #9 of the Standard Specifications and as directed by the Engineer.

1. Submit 3D drawings or show the Engineer the digital terrain model (or proof of some type) that the Contractor has generated all proposed information correctly for all parts of the job (mainline, ramps, side roads, entrances, etc.) before starting any grading, structures or paving work. This does not relieve the Contractor of responsibility of any possible errors made in the modeling.
2. The Contractor shall also submit a written QC/QA plan that they must follow to provide quality control on the actual layout and quality assurance checks of the layout during and after construction. This shall be submitted prior to the start of construction and shall meet the approval of the Engineer.
3. The Engineer may perform spot checks of the machine control grading results, surveying calculations, records, field procedures, and actual staking. If the Engineer determines the work is not being performed in a manner that will provide accurate results, the Engineer may order such work to be redone, to the requirements of the contract documents, at no additional cost to the Department.
4. The Contractor shall check and recalibrate their GPS rover system as needed.
5. The Contractor shall establish secondary control points at appropriate intervals and at locations along the length of the project and outside the project limits and/or where work is performed beyond the project limits as required at intervals not to exceed 1000 feet (300 m). Determine the horizontal position of these points using static GPS sessions or by traverse connection from the original baseline control points. Establish the elevation of these control points using differential leveling from the project benchmarks, forming closed loops. Provide a copy of all new control point information to the Engineer prior to construction activities. The Contractor is responsible for all errors resulting from their efforts. Correct all deficiencies to the satisfaction of the Engineer at no additional cost to the Department.
6. The Contractor shall preserve all reference points and monuments that are established by the Engineer within the project limits. Any reference points that have not been preserved shall be reestablished at no additional cost to the Department.

Construction Layout Equipment

General. The Contractor shall furnish articles of survey equipment to be used by the Department for independent monitoring and verification of construction layout stakes, reference points, and any other horizontal and vertical control set by the Contractor. All equipment will be for the exclusive use of the Department throughout the duration of the contract and will be returned to the Contractor at the end of the contract.

Equipment. The equipment to be furnished by the Contractor shall consist of one precision GNSS rover and a secondary GPS handheld controller. The precision GNSS rover must meet or exceed the capabilities of, and be compatible with the Contractor's equipment and meet the approval of the Engineer. The secondary GPS handheld controller shall also meet or exceed the capabilities of, and be compatible with the Contractor's equipment and meet the approval of the Engineer. The equipment provided shall include all software, data and any additional equipment (base station, repeaters, etc.) necessary to find any point on the project in station, offset and elevation with precision. The Contractor will be required to supply the Department Windows-based software capable of downloading project data from the GPS handheld controller. The project data included in the equipment will be consistent with the data used by the Contractor for layout and grading. Any data revisions or software updates to the Contractor's equipment will also be applied to the Department's equipment by the Contractor.

The Contractor will be responsible for providing training for three members of the Department's staff on use of the equipment and software. The Contractor shall provide one person to the Engineer who will be able to answer any questions and offer any necessary technical support at any point of the project.

Method of Measurement. This work will be measured as lump sum.

Basis of Payment. This work shall be paid for at the contract lump sum price for CONSTRUCTION LAYOUT (SPECIAL). If the Contractor elects not to utilize GPS equipment for the use of construction layout then requirements of the Recurring Special Provision Check Sheet #9 shall be followed and will be paid for at the contract lump sum price for CONSTRUCTION LAYOUT (SPECIAL).

WIDE AREA VIDEO DETECTION SYSTEM COMPLETE

The video detection system shall be an approved system for use within District 2. The following video detection systems are approved for use within District 2:

Gridsmart, Iteris, Autoscope Vision, and ITS Plus.

The video vehicle detection system shall include all necessary electric cable, electrical junction boxes, electrical and communications surge suppression, brackets, hardware, software, programming, and all other items that are required for installation and configuration. These items should be taken into consideration and shall be included in the bid price for the video detection system.

All CAT 5 Ethernet cable shall meet the requirements contained in the special provisions (outdoor rated, gel-filled, shielded, etc.).

All vehicle video detection systems shall be equipped with the latest software or firmware revisions.

The video vehicle system shall be configured and installed to NEMA TS2 Standards (use of the SDLC port and BIU). Installation conforming to NEMA TS1 standards will not be allowed.

The Contractor shall furnish and install a SDLC splitter cable and connect the proposed video detection processor to the SDLC splitter cable.

The Contractor shall program all video detection systems.

The video detection cameras shall be installed on the strain pole of the mast arm that is located closest to the traffic signal controller cabinet or at the locations shown on the plan sheets.

The Contractor shall install the camera at a 45 ft. minimum height and the maximum height shall not exceed 47 ft.

The camera mast shall be secured to the mast arm strain pole at two locations utilizing bracketing with stainless steel banding.

All CAT 5 cable runs shall not exceed 300 ft. The Contractor shall measure the distance of the cable and test the cable for continuity by using a handheld tester that shows the length of each cable pair.

The Contractor shall furnish and install an IP67 rated POE repeater for all distances in excess of 300 ft.

The Contractor shall install the system components in accordance with the manufacturer's recommendations. The Contractor shall install a green insulated #12 AWG wire from the camera surge suppressor to the ground bus inside the cabinet and connect the drain shield from the CAT 5 ethernet cable to the ground lug located inside the surge arrester.

The Contractor shall measure the distance from the bottom of the camera to the roadway and record this information inside the cabinet.

The minimum requirements for a video vehicle detection system are listed below:

1.0 General

This Specification sets forth the minimum requirements for a system that monitors vehicles on a roadway via processing of video images and provides detector outputs to a traffic controller or similar device.

1.1 System Hardware

The system shall consist of one video camera and an automatic control unit (ACU). The ACU shall process all detected calls and shall be equipped with the latest firmware revisions.

1.2 System Software

The system shall be able to detect either approaching or receding vehicles in multiple traffic lanes. A minimum of 24 detection zones shall be user-definable per camera. The user shall be able to modify and delete previously defined detection zones. The software shall provide remote access operation and shall be the latest revision.

2.0 Functional Capabilities

2.1 Real-Time Detection

2.2 The ACU shall be capable of simultaneously processing information from up to four (4) digital video sources. The video shall be digitized and analyzed at a rate of 30 times per second.

2.3 The system shall be able to detect the presence of vehicles in a minimum of 96 detection zones within the combined field of view of the image sensors.

3.0 Vehicle Detection

3.1 Detection Zone Placement

The video detection system shall provide flexible detection zone placement anywhere and at any orientation within the combined field of view of the image sensors. In addition, detection zones shall have the capability of implementing logical functions including AND and OR.

3.2 Optimal Detection

The video detection system shall reliably detect vehicle presence when the image sensor is mounted 10m (30 ft.) or higher above the roadway, when the image sensor is adjacent to the desired coverage area, and when the length of the detection area or field of view (FOV) is not greater than ten (10) times the mounting height of the image sensor. The image sensor shall not be required to be mounted directly over the roadway. A single image sensor, placed at the proper mounting height with the proper lens, shall be able to monitor six (6) to eight (8) traffic lanes simultaneously.

3.3 Detection Performance

Overall performance of the video detection system shall be comparable to inductive loops. Using standard image sensor optics and in the absence of occlusion, the system shall be able to detect vehicle presence with 98% accuracy under normal conditions, (days & night) and 96% accuracy under adverse conditions (fog, rain, snow). The ACU shall output a constant call for each enabled detector output channel if a loss of video signal occurs in any camera.

The ACU shall be capable of processing a minimum of twenty detector zones placed anywhere in the field of view of the camera.

4.0 ACU Hardware

4.1 ACU Mounting

The ACU shall be shelf or rack mountable. Nominal outside dimensions excluding connectors shall not exceed 180mm (7.25") x 475mm (19") x 260mm (10.5") (H x W x D).

4.2 ACU Environmental

The ACU shall be designed to operate reliably in the adverse environment found in the typical roadside traffic cabinet. It shall meet the environmental requirements set forth by the NEMA (National Electrical Manufacturers Association) TS1 and TS2 standards as well as the environmental requirements for Type 170 and Type 179 controllers. The minimum operating temperature range shall be from -35 to +74 degrees C at 0% to 95% relative humidity, non-condensing.

5.0 ACU Electrical

5.1 The ACU shall be modular in design and provide processing capability equivalent to the Intel Pentium microprocessor. The bus connections used to interconnect the modules of the ACU shall be gold-plated DIN connectors.

5.2 The ACU shall be powered by 89 - 135 VAC, 60 Hz, single phase, and draw 0.25 amps, or by 190 - 270 VAC, 50 Hz, single phase and draw 0.12 amps. If a rack mountable ACU is supplied, it shall be capable of operating from 10 to 28 VDC. The power supply shall automatically adapt to the input power level. Surge ratings shall be as set forth in the NEMA TS1 and TS2 specifications.

5.3 Serial communications to a remote computer equipped with remote monitoring software shall be through a RJ-45 Ethernet port.

5.4 The ACU shall be equipped with a NEMA TS2 RS-485 SDLC interface for communicating input and output information. Front panel LEDs shall provide status information when communications are open.

5.5 The ACU and/or camera hookup panel shall be equipped with four RJ-45 connector based/terminal block connections for cameras so that signals from four image sensors can be processed in real-time.

5.6 The ACU shall be equipped with USB ports, and Ethernet ports to provide communications to a computer running the configuration and remote access software.

5.7 The ACU and/or camera hookup panels used for a rack mountable ACU shall be equipped with a video output port.

5.8 The ACU shall be equipped with viewable front panel detection LED indications.

6.0 Camera

- 6.1 The video detection system shall use a high resolution, color, camera as the video source for real-time vehicle detection. As a minimum, each image sensor shall provide the following capabilities:
- a. H.264 video compression and transport
 - b. Support video streaming that is viewable with an adjustable frame rates of 5/15/30 fps
 - c. Images shall be produced with a CCD sensing element with horizontal resolution of at least 720 lines and vertical resolution of at least 480 lines.
 - d. Useable video and resolvable features in the video image shall be produced when those features have luminance levels as low as 0.1 lux at night.
 - e. Useable video and resolvable features in the video image shall be produced when those features have luminance levels as high as 10,000 lux during the day.
 - f. Automatic gain, automatic iris, and absolute black reference controls shall be furnished.
 - g. An optical filter and appropriate electronic circuitry shall be included in the image sensor to suppress "blooming" effects at night.
- 6.2 The image sensor shall be equipped with an integrated zoom lens with zoom and focus capabilities that can be changed using either configuration computer software or hand-held controller. The machine vision processor (MVP) may be enclosed within the camera.
- 6.3 The image sensor and lens assembly shall be housed in an environmental enclosure that provides the following capabilities:
- a. The enclosure shall be waterproof and dust-tight to NEMA-4 specifications. The camera shall be IP-67 rated.
 - b. The enclosure shall allow the image sensor to operate satisfactorily over an ambient temperature range from -34C to +74C while exposed to precipitation as well as direct sunlight.
 - c. The enclosure shall allow the image sensor horizon to be rotated in the field during installation.
 - d. A heater shall be at the front of the enclosure to prevent the formation of ice and condensation in cold weather, as well as to assure proper operation of the lens' iris mechanism. The heater shall not interfere with the operation of the image sensor electronics, and it shall not cause interference with the video signal.

- e. The enclosure shall be light-colored and shall include a sun shield to minimize solar heating. The front edge of the sunshield shall protrude beyond the front edge of the environmental enclosure and shall include provision to divert water flow to the sides of the sunshield. The amount of overhang of the sun shield shall be adjustable to prevent direct sunlight from entering the lens or hitting the faceplate.
 - f. The total weight of the image sensor in the environmental enclosure with sunshield shall be less than 2.7 kg (6 pounds).
 - g. When operating in the environmental enclosure with power and video signal cables connected, the image sensor shall meet FCC class B requirements for electromagnetic interference emissions.
- 6.3 The video output of the image sensor shall be isolated from earth ground. All video connections from the image sensor to the video interface panel shall also be isolated from earth ground.
- 6.4 The video output, communication, and power to the image sensor shall include transient protection to prevent damage to the sensor due to transient voltages occurring on the cable leading from the image sensor to other field locations.
- 6.5 A stainless steel junction box shall be available as an option with each image sensor for installation on the structure used for image sensor mounting. The junction box shall contain a terminal block for terminating power to the image sensor and connection points for cables from the image sensor and from the ACU.

7.0 Software

- 7.1 The system shall include the remote access software that is used to setup and configure the video detection system. The software shall be of the latest revision.
- 7.2 All necessary cable, adapters, and other equipment shall be included with the system.

8.0 Installation and Training

- 8.1 The supplier of the video detection system shall supervise the installation and testing of the video and video vehicle detection equipment. A factory certified representative from the supplier shall be on-site during installation.

9.0 Warranty, Maintenance, and Support

- 9.1 The video detection system shall be warranted by its supplier for a minimum of three (3) years from date of turn-on. This warranty shall cover all material defects and shall also provide all parts and labor as well as unlimited technical support.
- 9.2 Ongoing software support by the supplier shall include updates of the ACU and supervisor software. These updates shall be provided free of charge during the warranty period.
- 9.3 The supplier shall maintain a program for technical support and software updates following

expiration of the warranty period. This program shall be made available to the contracting agency in the form of a separate agreement for continuing support.

Method of Measurement. This work will be measured per each location.

Basis of Payment. This work will not be paid for separately, but shall be included in the contract unit price each for WIDE AREA VIDEO DETECTION SYSTEM COMPLETE which price shall be payment in full for all labor, equipment, and materials required to furnish, install, and test the video vehicle detection system described above, complete.

CAT 5 ETHERNET CABLE

This work shall be in accordance with Sections 873, 1076, and 1088 of the Standard Specifications except as modified herein.

This work shall consist of furnishing and installing an outdoor rated CAT5E cable in conduits, handholes, and poles.

The cable shall be rated for outdoor use and conform to the following specifications:

- Outdoor CMX Rated Jacket (climate/oil resistant jacket)
- UV Resistant Outer Jacket Material (PVC-UV, UV Stabilized)
- Outer Jacket Ripcord
- Designed for Outdoor Above- Ground or Conduit Duct applications
- Cat5E rated to 350MHz (great for 10/100 or even 1000mbps Gigabit Ethernet)
- Meets TIA/EIA 568b.2 Standard
- Shielded Twist Pair
- 4 Pairs, 8 Conductors
- 24AWG, Solid Core Copper
- UL 444 ANSI TIA/EIA-568.2 ISO/IEC 11801
- RoHS Compliant
- Water Blocking Gel

Basis of Payment. This work will not be paid for separately but shall be included in the cost of the pay item for WIDE AREA VIDEO DETECTION SYSTEM COMPLETE.

COMMUNICATIONS CABINET AND EQUIPMENT

This work shall consist of furnishing and installing a traffic signal cabinet complete at the intersection of Harrison Avenue / I-39 Exit Ramp and Entrance Ramp, which will include and house all equipment required to transmit the vehicular detection data from the inductive loop detectors to the traffic signal controller by way of fiber optic cable. The signal cabinet will contain applicable peripheral equipment, power supply and uninterruptible power supply.

The controller cabinet shall be a Type IV and be in accordance with applicable sections of Article 1074.03(a) as modified in CONTROLLER CABINET AND PERIPHERAL EQUIPMENT in Division 1000 of these specifications.

The Contactor shall furnish, test and install peripheral equipment including but not limited to a cabinet power supply for cabinet control equipment, TS2 detector rack, inductive loop detectors, contact closure fiber transceivers and any additional equipment required to transmit the detection data from the detector rack to the traffic signal controller by way of fiber optic cable.

Materials shall be in accordance with applicable sections of Article 1074.03, as modified in the specification for FULL-ACTUATED CONTROLLER AND CABINET.

The contact closure fiber transceiver(s) shall meet the requirements specified herein:

The contact closure fiber transceiver shall be of a sturdy, weatherproof design, able to operate reliably in the harsh cabinet environment. The device shall have an operating temperature at least between -40 degrees Fahrenheit (-40 C) and 167 degrees Fahrenheit (75 C) and operate within a relative humidity of 0 to 95% (non-condensing). All fiber optic components shall have the manufacturer's name, address, type, style, model or serial number, and catalog number secured to the equipment.

Each contact closure transceiver shall be capable of transmitting a minimum of 8 channels over one multimode or single-mode fiber. The contact closure transceiver shall have LED indicators that clearly show the contact status per channel (open/off, closed/on) and a power indicator for the device.

Contact Closure Properties

Input Type: Dry Contact / TTL Logic (positive)

Default Output Type: Normally Open / Logic Low Maximum

Contact Output Response Time: 2 ms

Optical Properties

Emitter Type: Laser Diode

Wavelength: 1310 or 1310/1550nm

Number of Fibers per Transceiver: 1

Connectors

Contact Closure: 8-pin screw terminal

Optical: ST

Contact closure fiber transceivers and all other fiber optic components, except for the interconnect cable itself, required to provide proper communications between the video detectors and the traffic signal controller shall be furnished and installed as part of this item.

The traffic signal communications cabinet shall be assembled only by an approved traffic signal equipment supplier. The cabinet shall be new, built, tested and approved by the controller equipment vendor, in the vendor's District Two facility, prior to field installation. IDOT personnel shall be present during the testing at the vendor's facility. The vendor shall provide the technical equipment and assistance as required by the Engineer to fully test this equipment. The vendor shall ensure that the data from the detection channels are being transmitted to the controller by means of fiber optic cable and that the controller is receiving and interpreting the data correctly.

Method of Measurement. This will be measured per each.

Basis of Payment. This work will be paid for at the contract unit price per each for COMMUNICATIONS CABINET AND EQUIPMENT, which shall include the cabinet housing and all peripheral equipment, contact closure fiber transceivers and all fiber optic connections required to transmit the detection data from the video detectors by means of fiber optic cable to the traffic signal controller. The fiber optic transceiver for traffic signal interconnect shall be paid for separately at the contract unit price for TRANSCEIVER – FIBER OPTIC. The uninterruptible power supply shall be paid for separately at the contract unit price for UNINTERRUPTIBLE POWER SUPPLY, EXTENDED. The electrical service required to power the cabinet and its peripheral equipment shall be paid for separately at the contract unit price for SERVICE INSTALLATION, TYPE A.

DRAINAGE RESTRICTOR

Description. This work shall include all labor, material, and equipment necessary for the installation of DRAINAGE RESTRICTOR at locations shown on the Engineering Plans in accordance with Section 1006 of the Standard Specifications, as directed by the Engineer, and as specified herein. Control structures are not included in this work.

General. The Contractor shall furnish and place structures and all incidental parts meeting the dimensions and angles of the details specified in the Plans.

Method of Measurement. This work will be measured in place per each for DRAINAGE RESTRICTOR.

Basis of Payment. This work will be paid for at the contract unit price per each for DRINAGE RESTRICTOR, of the size specified, which price shall be payment in full for all equipment, labor, materials, fabrication, excavation and backfilling, dewatering, construction and all incidentals required to construct the complete DRAINAGE RESTRICTOR to the dimensions and grades shown on the Plans.

REMOVE EXISTING CABLE

Description. This work shall consist of disconnecting and removing existing cable in conduit at locations shown on the plans, or directed by the Engineer.

Construction Requirements. All work shall be performed in accordance with Section 895 of the Standard Specifications.

The existing cable shall be disconnected from power source and/or light poles, prior to being removed from existing conduit to be abandoned.

The Contractor shall take ownership of the cable and shall be taken off-site for proper disposal.

Method of Measurement. Removal of all cables installed in an existing conduit will be measured for payment per foot. Multiple cables in conduit shall not be paid to be removed separately. The length of measurement shall be the horizontal distance measured between points of connection and shall not include vertical lengths and slack.

Basis of Payment. The work shall be paid for at the contract unit price per foot for REMOVE EXISTING CABLE, which shall be payment in full for all work listed herein and as directed by the Engineer.

SIGNAL TIMING

This work shall consist of developing and implementing appropriate traffic signal timings for the permanent traffic signal installations at the intersections of US Route 20 (Harrison Avenue) and South Mall Drive, US Route 20 (Harrison Avenue) and Southbound Entrance/Exit Ramp, US Route 20 (Harrison Avenue) and Northbound Entrance/Exit Ramp, and US Route 20 (Harrison Avenue) and Mill Road.

All timings and adjustments necessary for this work shall be performed by an approved Consultant who has previous experience in optimizing Closed Loop Traffic Signal Systems for IDOT District 2. The Contractor shall contact the Traffic Signal Engineer for a listing of approved Consultants.

The following tasks are associated with SIGNAL TIMING:

The Consultant shall attend temporary and permanent traffic signal inspections (turn-ons) and conduct on-site implementation of the traffic signal timings for both turn-ons.

The Consultant shall be responsible for making fine-tuning adjustments to the timings in the field to alleviate observed adverse operating conditions and to enhance operations.

The Consultant needs to calculate and implement new pedestrian, yellow, and red clearances according to the new State of Illinois policy.

The Consultant shall make timing adjustments and prepare comment responses as directed by the Area Traffic Signal Operations Engineer.

Method of Measurement. This work will be measured as lump sum.

Basis of Payment. This work will be paid for at the contract lump sum price for SIGNAL TIMING, which price shall be payment in full for performing all work described herein per intersection.

WASHOUT BASIN

Description. This work shall consist of constructing and maintaining a washout basin for concrete trucks and other construction vehicles per the information shown in the plans. The locations of the washout basins are subject to the approval of the Engineer.

General. This work will be measured for at the contract lump sum price for WASHOUT BASIN which price shall include general maintenance and removal of all construction debris, restoration of the site upon completion, and all incidentals required to complete this item of work.

Method of Measurement. This work will be measured as lump sum.

Basis of Payment. This work will be paid for at the contract unit price per lump sum for WASHOUT BASIN.

TEMPORARY WOOD POLE

Description. This work shall be performed in accordance with Section 830 of the Standard Specifications insofar as applicable and as detailed on the Plans, except as modified herein.

Materials. Temporary wood poles shall be in accordance with Section 1069.04 of the Standard Specification.

Mast arms for temporary wood poles with mast arm shall be in accordance with 1069.03(a).

Method of Measurement. This work will be measured per each.

Basis of Payment. This work will be paid for at the contract unit price per each for TEMPORARY WOOD POLE, of the type, size, and class specified, which price shall be payment-in-full for all labor, equipment, materials, and incidental expenses as necessary to furnish and install the temporary wood pole including, grounding, luminaire arm, bolts, nuts, and washers, etc.

SANITARY SEWER MAIN LINE REPAIR

Description: This work shall conform to Four Rivers Sanitation Authority (FRSA) requirements, details, and provisions. This work shall include all equipment, materials, labor, transportation, and workmanship to repair sanitary sewer as shown on the plans.

This work shall be in accordance with the FRSA Standard Detail Sheet.

This work consists of removing and replacing specified sections of sanitary sewer. Work includes permits, mobilization/transportation, site access, site preparation, supervision, and all labor, equipment and materials needed to: complete sanitary sewer main line repairs on various diameters and materials of sanitary sewer pipe with new sanitary sewer pipe on grade and in line. The work shall also include rock/earth excavation, removal and disposal of existing pipe, new sanitary sewer pipe, transition couplings, temporary by-pass pumping, pipe bedding, trench backfill, compaction, restoration as required, temporary plugs, trench dewatering, utility relocation, erosion control, dust control and any ancillary items necessary for the completion of this project not specifically provided for elsewhere or herein.

This work shall include all rock/earth excavation, trench backfill and compaction, as required, in accordance with all applicable IDOT provisions and specifications.

There are no defects to be repaired; the mainline repair on this project is to maintain flow after manhole 156-185 is removed.

Pipe edges shall be square and free of jagged edges. Connection shall be made to structurally sound pipe with positive slope as verified by the FRSA Inspector. This work shall include connecting to existing sanitary sewer pipe by means of transition couplings.

Pipe Bedding:

Pipe bedding for flexible pipe shall be per the FRSA 'Flexible Pipe Bedding Detail' on the FRSA Standard Detail Sheet. Crushed stone pipe bedding for flexible pipe shall be IDOT CA-7 gradation conforming to Class IA per ASTM Standard D2321. Bedding material for flexible pipe shall be placed from six inches (6") minimum below the bottom of the pipe to the spring line of the pipe and shall be haunched in place along the side of the pipe, ensuring that all voids are eliminated. Bedding material shall be placed from the spring line of the pipe to twelve inches (12") minimum above the top of the pipe.

Trench Backfill:

The Contractor shall use approved select trench backfill to the level of the base under all roads, shoulders, sidewalks, driveways, parking lots or pavements of any kind. Select trench backfill under said structures shall be IDOT gradation FA-6, mechanically-compacted in twelve inch (12") maximum loose lifts to the sub-grade elevation of the road shoulder, sidewalk, driveway, parking lot or other pavement. Materials shall be in accordance with Article 1003.04 and Section 208 of the IDOT Standard Specifications for Road and Bridge Construction, current edition. Select trench backfill shall be mechanically compacted with a vibratory plate, vibratory roller, or other approved equipment-mounted compaction equipment. Water-jetting, ponding or flooding will not be permitted as a means of trench compaction on this project.

The Contractor shall exercise care not to disturb any existing utilities during backfilling and compaction operations. The Contractor shall use reasonable care while backfilling over the sewer. No materials such as rocks or boulders shall be allowed to be dropped directly on the sewer pipe. If these materials are present in the backfill, the Contractor shall bring bedding material to a point 24" above the crown of the pipe. The cost of this additional granular material shall be considered incidental to this item.

Materials:

1. PVC pipe:
 - a. Water main quality PVC pipe shall be:
 - i. PVC SDR 26 having a pressure rating of 160 psi with a pipe stiffness of 115 psi meeting the requirements of ASTM D2241. Joints shall meet the requirements of ASTM D3139.
2. Clay to PVC and cast iron or ductile iron to PVC pipe transition couplings shall be Fernco 5000 series shear resistant or approved equivalent repair couplings, made of flexible PVC compound with 316 stainless steel clamps and stainless steel rings. Transition couplings shall conform to the applicable parts of ASTM D5926 and C1173.
3. Crushed stone pipe bedding shall be IDOT CA-7 gradation conforming to Class IA per ASTM Standard D2321.
4. Select trench backfill shall be IDOT gradation FA-6.

Required Submittals:

1. Pipe material specifications.
2. Coupling and transition coupling material specifications.

Method of Measurement: This work shall be measured horizontal along the centerline of the pipe in feet. If beginning or terminating at a manhole, the measurement shall be to the outside of the manhole wall.

Basis of Payment: This work shall be paid for at the contract unit price per foot for SANITARY SEWER MAIN LINE REPAIR, of the diameter specified.

PRECAST CONCRETE JUNCTION CHAMBER

Description. This work shall include all labor, material, and equipment necessary for the installation of PRECAST CONCRETE JUNCTION CHAMBER and as detailed in the Contract Plans in accordance with Articles 540, 542, and 604 of the Standard Specifications, as directed by the Engineer, and as specified herein.

General. The Contractor shall furnish and place a precast structure and all incidental parts meeting the dimensions and angles of the details in the Plans. This work shall include all construction of PRECAST CONCRETE JUNCTION CHAMBER, together with the necessary precast reinforced concrete risers, steps, cast iron frames and grates or lids, manufactured and installed in place, at the locations shown on the plans and according to Sections 504 and 602 of the Standard Specifications, except as modified herein, and as directed by the Engineer. This work shall also include temporary soil retaining systems if required, restrictor plate and attachments and other items necessary to complete the work. This work shall also include necessary removals and connections to the existing box culvert to remain.

Method of Measurement. This work will be measured in place per each for PRECAST CONCRETE JUNCTION CHAMBER.

Basis of Payment. This work will be paid for at the contract unit price per each for PRECAST CONCRETE JUNCTION CHAMBER, which price shall be payment in full for all equipment, labor, materials, fabrication, excavation and backfilling, dewatering, bedding, construction and all incidentals required to construct the complete PRECAST CONCRETE JUNCTION CHAMBER and to the dimensions and grades shown on the Plans.

BOX CULVERT REMOVAL

Description. This work shall include furnishing all labor, material, and equipment necessary for removing and disposing of existing box culvert(s) at locations shown in the Contract Plans and as directed by the Engineer. This work shall be performed in accordance with the applicable portions of Section 501 of the Standard Specifications, the details in the project plans, and as herein specified.

General. The work shall include excavation and disposal of existing structure and incidentals for the BOX CULVERT REMOVAL locations as shown on the plans. The Contractor shall ensure that any embankment fill is accordance with all plans and specifications. Removal of any end sections (headwalls, wingwalls, or other) shall be paid for separately.

Method of Measurement. This work will be measured in place per foot of BOX CULVERT REMOVAL.

Basis of Payment. This work will be paid for at the contract unit price per foot for BOX CULVERT REMOVAL, which price shall be payment in full for all equipment, labor, materials, fabrication, excavation and backfilling, dewatering, bedding, construction and all incidentals required to construct the complete BOX CULVERT REMOVAL as shown on the Contract Plans.

HELIX FOUNDATION AND BREAKWAY DEVICE (ILLINOIS TOLLWAY)

(Revised: March 1, 2023)

This Special Provision shall only be utilized for helix light pole foundations between I-39 stations 2745+00 to 2747+00 (SB) and 17+60 to 24+00 (NB).

Revise Section 836 of the Standard Specifications to read:

Materials. Materials shall be according to the following Articles of Division 1000 – Materials of the Standard Specifications and as modified or supplemented by the Illinois Tollway Supplemental Specifications. See Appendix for Illinois Tollway Material Supplemental Specifications.

Item	Article/Section
(a) Light Pole Foundation, Metal	1070.01

Installation.

Replace the first paragraph of Article 836.03(b) with the following:

Metal Foundations. Steel helix foundations shall be fabricated as shown on the Plans. Steel helix foundations shall be used only for roadway lighting and ITS applications and shall be installed in a manner acceptable to the Engineer and to the depths indicated in the Plans.

The steel helix foundation shall be installed in accordance with the Manufacturer's recommended procedures. The installation shall be accomplished by either a boom type or a bed mounted type digger truck. The maximum torque limit of 13,000 ft.-lb. should not be exceeded since the possible damage to the foundation could occur. In the case of extremely difficult soils that cause the mechanical limit of the foundation to be exceeded, the foundation may be installed at the discretion of the Engineer in one of two methods. Predrilling a hole that is less than the shaft diameter of the foundation or using water as a lubricant. When foundation is installed by either method, minimum torque requirements of 5000 ft.-lb. are to be followed. The installation torque may be measured by torque measuring devices currently available or by calibrating the hydraulic system of the installing equipment.

Any voids within the metal screw-in foundation shall be filled with fine aggregate.

Method of Measurement. Pole foundations will measured per each complete and in place.

Basis of Payment. This work will be paid for at the contract unit price per each for HELIX FOUNDATION AND BREAKAWAY DEVICE.

LUMINAIRE, LED, SPECIAL (ILLINOIS TOLLWAY)

(Revised: March 1, 2023)

This Special Provision shall only be utilized for luminaires between I-39 stations 2745+00 to 2747+00 (SB) and 17+60 to 24+00 (NB).

Revise Section 821 of the Standard Specifications to read:

Materials. Materials shall be according to the following Articles of Division 1000 – Materials of the Standard Specifications and as modified or supplemented by the Illinois Tollway Supplemental Specifications. See Appendix for Illinois Tollway Material Supplemental Specifications.

Item	Article/Section
(a) Luminaire	1067
(b) Luminaire (LED)	1067.09
(c) Wire in the Pole	1066.09
(d) Fuseholders and Fuses	1065.01
(e) Lamps	1067.06
(f) Fasteners and Hardware	1088.03
(g) Lightning Protection	1065.02

Installation.

Add the following paragraph to Article 821.03:

Provide a 24" long polyethylene tube to protect the pole wiring where it passes through the grommets opening at the pole/mast arm junction, centered on the opening. The steel mast arm cable shall be routed outside the polyethylene tube.

Add the following paragraph to Article 821.04:

821.04 Conventional Pole Installation

(a) Luminaire. Luminaires shall be 400-watt high pressure sodium or light emitting diode (LED) technology as specified on the Plans. Luminaires have been specified based on Manufacturer's published photometric data for high pressure sodium and LED Luminaires on file with the Illinois Tollway.

Where LED luminaires are supplied, each shall have optics as defined by the following Manufacturer IES photometric files for the distribution types listed:

Manufacturer	Distribution Type	Photometric File
American Electric Lighting	Type II	ATB0_45LED_P454_R2_4000K*
	Type III	ATB0_45LED_P454_R3_4000K*
	Type II	*Use ATBL_D_XXXXX_N2 on poles without mode 1 vibration dampeners
Cree	Type 2	5 – PL12765-003A XSPLG-D-HT-2ME-24L-40K7-UL-SV-N FnRpt
General Electric Lighting Solutions	Type III	ERL2_27C340
Philips	Type R2M	RFL-215W96LED4K-T-R2M (S1410224m)

All luminaires supplied under the Contract shall meet or exceed the photometric performance requirements on file with the Illinois Tollway for the application and layout specified. Proposed equivalents shall be submitted to the Illinois Tollway for approval.

(b) Horizontal mount luminaires shall be installed in a level, horizontal plane, with adjustments as needed to ensure that the optics are set perpendicular to the traveled roadway.

(c) When installed on a bridge mounted pole, a minimum size 1/4-20NC stainless steel set screw shall be provided to secure the luminaire to the mast arm tenon. A hole shall be drilled and tapped thru the tenon and luminaire mounting bracket and then fitted with the screw. This shall be installed after the pole has been erected and the luminaire leveled as specified herein.

(d) Field modifying/drilling luminaires shall not be permitted.

Method of Measurement. This work will be measured per each.

Basis of Payment. This work will be paid for at the contract unit price per each for LUMINAIRE, LED, SPECIAL.

FIBER OPTIC CABLE, SINGLE MODE

Description. The Contractor shall furnish and install loose-tube, single-mode, fiber optic cable of the number of fibers specified as shown in the Plans and as directed by the Engineer.

Other ancillary components, required to complete the fiber optic cable Plant, including but not limited to, moisture and water sealants, cable caps, fan-out kits, etc., shall be included in the cost of fiber optic cable and will not be paid for separately.

Materials. The single-mode, fiber optic cable shall incorporate a loose, buffer-tube design. The cable shall be an accepted product of the United States Department of Agriculture Rural Utilities Service (RUS) 7 CFR 1755.900 and meet the requirements of ANSI/ICEA Standard for Fiber Optic Outside Plant Communications Cable, ANSI/ICEA S-87-640-1999 for a single sheathed, non-armored cable, and shall be new, unused and of current design and manufacture.

Fibers.

The cables shall use dispersion unshifted fibers. The optical and physical characteristics of the un-cabled fibers shall include:

The single-mode fiber shall meet EIA/TIA-492CAAA, "Detail Specification for Class IVa Dispersion-Unshifted Single-Mode Optical Fibers," and ITU recommendation G.652.D, "Characteristics of a single-mode optical fiber cable."

Physical Construction			
Requirement		Units	Value
Cladding Diameter		(μm)	125.0 ± 0.7
Core-to-Cladding Concentricity		(μm)	≤ 0.5
Cladding Non-Circularity			$\leq 0.7 \%$
Mode Field Diameter	1310 nm	(μm)	9.2 ± 0.4
	1550 nm		10.4 ± 0.5
Coating Diameter		(μm)	245 ± 5
Colored Fiber Nominal Diameter		(μm)	253 - 259
Fiber Curl radius of curvature		(m)	$> 4.0 \text{ m}$

Optical Characteristics			
Requirement		Units	Value
Cabled Fiber Attenuation	1310 nm	(dB/km)	≤ 0.4
	1550 nm		≤ 0.3
Point discontinuity	1310 nm	(dB)	≤ 0.1
	1550 nm		≤ 0.1
Macrobend Attenuation	Turns	Mandrel OD	
	1	$32 \pm 2 \text{ mm}$	$< 0.05 \text{ at } 1550 \text{ nm}$
	100	$50 \pm 2 \text{ mm}$	$< 0.05 \text{ at } 1310 \text{ nm}$
	100	$50 \pm 2 \text{ mm}$	$< 0.10 \text{ at } 1550 \text{ nm}$
	100	$60 \pm 2 \text{ mm}$	$< 0.05 \text{ at } 1550 \text{ nm}$
100	$60 \pm 2 \text{ mm}$	$< 0.05 \text{ at } 1625 \text{ nm}$	
Cable Cutoff Wavelength (λ_{ccf})		(nm)	< 1260
Zero Dispersion Wavelength (λ_0)		(nm)	$1302 \leq \lambda_0 \leq 1322$
Zero Dispersion Slope (S_0)		(ps/(nm ² •km))	≤ 0.089
Total Dispersion	1550 nm	(ps/(nm•km))	≤ 3.5
	1285-1330 nm		≤ 17.5
	1625 nm		≤ 21.5
Cabled Polarization Mode Dispersion		(ps/km ²)	≤ 0.2
IEEE 802.3 GbE - 1300 nm Laser Distance		(m)	up to 5000
Water Peak Attenuation: 1383 \pm 3 nm		(dB/km)	≤ 0.4

Cable Construction.

The number of fibers in each cable shall be as specified on the Plans.

Optical fibers shall be placed inside a loose buffer tube. The nominal outer diameter of the buffer tube shall be 3.0 mm. Each buffer tube shall contain up to 12 fibers. The fibers shall not adhere to the inside of the buffer tube.

Each fiber shall be distinguishable by means of color coding in accordance with TIA/EIA-598-B, "Optical Fiber Cable Color Coding." The fibers shall be colored with ultraviolet (UV) curable inks.

Buffer tubes containing fibers shall be color coded with distinct and recognizable colors in accordance with TIA/EIA-598-B, "Optical Fiber Cable Color Coding." Buffer tube colored stripes shall be inlaid in the tube by means of co-extrusion when required. The nominal stripe width shall be 1 mm.

For cables containing more than 12 buffer tubes, standard colors are used for tubes 1 through 12 and stripes are used to denote tubes 13 through 24. The color sequence applies to tubes containing fibers only, and shall begin with the first tube. If fillers are required, they shall be placed in the inner layer of the cable. The tube color sequence shall start from the inside layer and progress outward.

In buffer tubes containing multiple fibers, the colors shall be stable across the specified storage and operating temperature range and shall not be subject to fading or smearing onto each other. Colors shall not cause fibers to stick together.

The buffer tubes shall be resistant to external forces and shall meet the buffer tube cold bend and shrinkback requirements of 7 CFR 1755.900.

Fillers may be included in the cable core to lend symmetry to the cable cross-section where needed. Fillers shall be placed so that they do not interrupt the consecutive positioning of the buffer tubes. In dual layer cables, any fillers shall be placed in the inner layer.

The central member shall consist of a dielectric, glass reinforced plastic (GRP) rod (optional steel central member). The purpose of the central member is to provide tensile strength and prevent buckling. The central member shall be overcoated with a thermoplastic when required to achieve dimensional sizing to accommodate buffer tubes/fillers.

Each buffer tube shall contain a water-swallowable yarn for water-blocking protection. The water-swallowable yarn shall be non-nutritive to fungus, electrically non-conductive, and homogeneous. It shall also be free from dirt or foreign matter. This yarn will preclude the need for other water-blocking material; the buffer-tube shall be gel-free. The optical fibers shall not require cleaning before placement into a splice tray or fan-out kit.

Buffer tubes shall be stranded around the dielectric central member using the reverse oscillation, or "S-Z", stranding process.

Water swallowable yarn(s) shall be applied longitudinally along the central member during stranding.

Two polyester yarn binders shall be applied contrahelically with sufficient tension to secure each buffer tube layer to the dielectric central member without crushing the buffer tubes. The binders shall be non-hygroscopic, non-wicking, and dielectric with low shrinkage.

For single layer cables, a water swallowable tape shall be applied longitudinally around the outside of the stranded tubes/fillers. The water swallowable tape shall be non-nutritive to fungus, electrically non-conductive, and homogenous. It shall also be free from dirt and foreign matter.

For dual layer cables, a second (outer) layer of buffer tubes shall be stranded over the original core to form a two layer core. A water swallowable tape shall be applied longitudinally over both the inner and outer layer. The water swallowable tape shall be non-nutritive to fungus, electrically non-conductive, and homogenous. It shall also be free from dirt and foreign matter.

The cables shall contain one ripcord under the sheath for easy sheath removal.

Tensile strength shall be provided by the central member, and additional dielectric yarns as required.

The dielectric yarns shall be helically stranded evenly around the cable core.

The cables shall be sheathed with medium density polyethylene (MDPE). The minimum nominal jacket thickness shall be 1.4 mm. Jacketing material shall be applied directly over the tensile strength members (as required) and water swellable tape. The polyethylene shall contain carbon black to provide ultraviolet light protection and shall not promote the growth of fungus.

The MDPE jacket material shall be as defined by ASTM D1248, Type II, Class C, Category 4 and Grades J4, E7 and E8.

The jacket or sheath shall be free of holes, splits, and blisters.

The cable jacket shall contain no metal elements and shall be of a consistent thickness.

Cable jackets shall be marked with the manufacturer's name, month and year of manufacture, sequential meter or foot markings, a telecommunication handset symbol as required by Section 350G of the National Electrical Safety Code (NESC), fiber count, and fiber type. The actual length of the cable shall be within -0/+1% of the length markings. The print color shall be white, with the exception that cable jackets containing one or more co-extruded white stripes, which shall be printed in light blue. The height of the marking shall be approximately 2.5 mm.

The maximum pulling tension shall be 2700 N (608 lbf) during installation (short term) and 890 N (200 lbf) long term installed.

The shipping, storage, and operating temperature range of the cable shall be -40°C to +70°C. The installation temperature range of the cable shall be -30°C to +70°C.

General Cable Performance Specifications

The fiber optic cable manufacturer shall provide documentation and certify that the fiber optic cable complies with the following EIA-455-xxx Fiber Optic Test Procedures (FOTP):

When tested in accordance with FOTP-3, "*Procedure to Measure Temperature Cycling Effects on Optical Fibers, Optical Cable, and Other Passive Fiber Optic Components*," the change in attenuation at extreme operational temperatures (-40°C and +70°C) shall not exceed 0.15 dB/km at 1550 nm for single-mode fiber and 0.3 dB/km at 1300 nm for multimode fiber.

When tested in accordance with FOTP-82, "*Fluid Penetration Test for Fluid-Blocked Fiber Optic Cable*," a one meter length of unaged cable shall withstand a one meter static head or equivalent continuous pressure of water for one hour without leakage through the open cable end.

When tested in accordance with FOTP-81, "*Compound Flow (Drip) Test for Filled Fiber Optic Cable*," the cable shall exhibit no flow (drip or leak) of filling and/or flooding material at 70°C.

When tested in accordance with FOTP-41, "*Compressive Loading Resistance of Fiber Optic Cables*," the cable shall withstand a minimum compressive load of 220 N/cm (125 lbf/in) applied uniformly over the length of the sample. The 220 N/cm (125 lbf/in) load shall be applied at a rate of 2.5 mm (0.1 in) per minute. The load shall be maintained for a period of 1 minute. The load shall then be decreased to 110 N/cm (63 lbf/in). Alternatively, it is acceptable to remove the 220 N/cm (125 lbf/in) load entirely and apply the 110 N/cm (63 lbf/in) load within five minutes at a rate of 2.5 mm (0.1 in) per minute. The 110 N/cm (63 lbf/in) load shall be maintained for a period of 10 minutes. Attenuation measurements shall be performed before release of the 110 N/cm (63 lbf/in) load. The change in attenuation shall not exceed 0.15 dB at 1550 nm for single-mode fibers and 0.30 dB at 1300 nm for multimode fiber.

When tested in accordance with FOTP-104, "*Fiber Optic Cable Cyclic Flexing Test*," the cable shall withstand 25 mechanical flexing cycles around a sheave diameter not greater than 20 times the cable diameter. The change in attenuation shall not exceed 0.15 dB at 1550 nm for single-mode fiber and 0.30 dB at 1300 nm for multimode fiber.

When tested in accordance with FOTP-25, "*Repeated Impact Testing of Fiber Optic Cables and Cable Assemblies*," except that the number of cycles shall be two at three locations along a one meter cable length and the impact energy shall be at least 4.4 Nm (in accordance with ICEA S-87-640)", the change in attenuation shall not exceed 0.15 dB at 1550 nm for single-mode fiber and 0.30 dB at 1300 nm for multimode fiber.

When tested in accordance with FOTP-33, "*Fiber Optic Cable Tensile Loading and Bending Test*," using a maximum mandrel and sheave diameter of 560 mm, the cable shall withstand a rated tensile load of 2670N (601 lbf) and residual load of 30% of the rated installation load. The axial fiber strain shall be $\leq 60\%$ of the fiber proof level after completion of 60 minute conditioning and while the cable is under the rated installation load. The axial fiber strain shall be $\leq 20\%$ of the fiber proof level after completion of 10 minute conditioning and while the cable is under the residual load. The change in attenuation at residual load and after load removal shall not exceed 0.15 dB at 1550 nm for single mode fiber and 0.30 dB at 1300 nm for multimode fiber.

When tested in accordance with FOTP-85, "*Fiber Optic Cable Twist Test*," a length of cable no greater than 2 meters shall withstand 10 cycles of mechanical twisting. The change in attenuation shall not exceed 0.15 dB at 1550 nm for single-mode fiber and 0.30 dB at 1300 nm for multimode fiber.

When tested in accordance with FOTP-37, "*Low or High Temperature Bend Test for Fiber Optic Cable*," the cable shall withstand four full turns around a mandrel of ≤ 20 times the cable diameter after conditioning for four hours at test temperatures of -30°C and $+60^{\circ}\text{C}$. Neither the inner or outer surfaces of the jacket shall exhibit visible cracks, splits, tears, or other openings. The change in attenuation shall not exceed 0.30 dB at 1550 nm for single mode fiber and 0.50 dB at 1300 nm for multimode fiber.

Quality Assurance Provision

All cabled optical fibers > 3,200 feet in length shall be 100% attenuation tested. The attenuation of each fiber shall be provided with each cable reel. The cable manufacturer shall be TL 9000 registered.

Packaging

Top and bottom ends of the cable shall be available for testing. Both ends of the cable shall be sealed to prevent the ingress of moisture. Each reel shall have a weather resistant reel tag attached identifying the reel and cable. The reel tag shall include the following information:

- Cable Number
- Gross Weight
- Shipped Cable Length in Meters
- Job Order Number
- Product Number
- Customer Order Number
- Date Cable was Tested
- Manufacturer Order Number
- Cable Length Markings
 - a: Top (inside end of cable)
 - b: Bottom (outside end of cable)

The reel (one flange) marking shall include:

- Manufacturer
- Country of origin
- An arrow indicating proper direction of roll when handling
- Fork lift-handling illustration
- Handling Warnings.

Each cable shall be accompanied by a cable data sheet. The cable data sheet shall include the following information:

- Manufacturer Cable Number
- Manufacturer Product Number
- Manufacturer Factory Order Number
- Customer Name
- Customer Cable Number
- Customer Purchase Order Number
- Mark for Information
- Ordered Length
- Maximum Billable Length
- Actual Shipped Length
- Measured Attenuation of Each Fiber

The cable shall be capable of withstanding a minimum-bending radius of 20 times its outer diameter during installation and 10 times its outer diameter during operation without changing the characteristics of the optical fibers.

The cable shall meet all of specified requirements under the following conditions:

- Shipping/storage temperature: -58° F to +158° F (-50° C to +70° C)
- Installation temperature: -22° F to +158° F (-30° C to +70° C)
- Operating temperature: -40° F to +158° F (-40° C to +70° C)

- Relative humidity from 0% to 95%, non-condensing

Optical Patch Cords and Pigtails.

The optical patch cords and pigtails shall comply with the following:

- The optical patch cords shall consist of a section of single fiber, jacketed cable equipped with optical connectors at both ends.
- The factory installed connector furnished as part of the optical patch cords and pigtails shall meet or exceed the requirements for approved connectors specified herein.
- The fiber portion of each patch cord and pigtail shall be a single, jacketed fiber with optical properties identical to the optical cable furnished under this contract.
- The twelve fiber single-mode fiber optic cable shall be installed as a pigtail with factory installed ST compatible connectors.
- The patch cords shall comply with Telcordia GR-326-CORE

Connectors.

The optical connectors shall comply with the following:

- All connectors shall be factory installed ST compatible connectors. Field installed connectors shall not be allowed.
- Maximum attenuation 0.4dB, typical 0.2dB.
- No more than 0.2dB increase in attenuation after 1000 insertions.
- Attenuation of all connectors will be checked and recorded at the time of installation with an insertion test minimum 5 times checked with an OTDR.
- All fibers shall be connectorized at each end.
- All fibers shall terminate at a fiber patch panel
- Unused fibers will be protected with a plastic cap to eliminate dust and moisture.
- Termination shall be facilitated by splicing factory OEM pigtails on the end of the bare fiber utilizing the fusion splicing method. Pigtails shall be one meter in length.

CONSTRUCTION REQUIREMENTS

Experience Requirements

Personnel involved in the installation, splicing and testing of the fiber optic cables shall meet the following requirements:

- A minimum of three (3) years experience in the installation of fiber optic cables, including fusion splicing, terminating and testing single mode fibers.
- Install two systems where fiber optic cables are outdoors in conduit and where the systems have been in continuous satisfactory operation for at least two years. The Contractor shall submit as proof, photographs or other supporting documents, and the names, addresses and telephone numbers of the operating personnel who can be contacted regarding the installed fiber optic systems.
- One fiber optic cable system (which may be one of the two in the preceding paragraph), which the Contractor can arrange for demonstration to the Department representatives and the Engineer.

Installers shall be familiar with the cable manufacturer's recommended procedures for installing the cable. This shall include knowledge of splicing procedures for the fusion splicer being used on this project and knowledge of all hardware such as breakout (furcation) kits and splice closures. The Contractor shall submit documented procedures to the Engineer for approval and to be used by Construction inspectors.

Personnel involved in testing shall have been trained by the manufacturer of the fiber optic cable test equipment to be used, in fiber optic cable testing procedures. Proof of this training shall be submitted to the Engineer for approval. In addition, the Contractor shall submit documentation of the testing procedures and a copy of the test equipment operation manual for approval by the Engineer.

Installation in Raceways.

Prior to installation, the Contractor shall provide a cable-pulling Plan. The Plan shall include the following information:

- Identify where each cable will enter the underground system and the direction each pull.
- Identify locations where the cable is pulled out of a handhole, coiled in a figure eight, and pulled back into the hand hole.
- The Plan shall address the physical protection of the cable during installation and during periods of downtime.
- Identify the location of slack storage locations
- Identify the locations of splices.
- Identify distances between fiber access points and crossings.

The cable-pulling Plan shall be provided to the Engineer for approval a minimum of 15 working days prior to the start of installation. The Engineer's approval shall be for the operation on the freeway and does not include an endorsement of the proposed procedures. The Contractor is responsible for the technical adequacy of the proposed procedures.

During cable pulling operations, the Contractor shall ensure that the minimum bending of the cable is maintained during the unreeling and pulling operations. Unless specified otherwise by the fiber optic cable manufacturer, the outside bend radius of the cable during installation shall be no less than 20 times the outside diameter of the fiber optic cable. Entry guide chutes shall be used to guide the cable into the handhole conduit ports. Lubricating compound shall be used to minimize friction. Corner rollers (wheels), if used, shall not have radii less than the minimum installation-bending radius of the cable. A series array of smaller wheels can be used for accomplishing the bend if the cable manufacturers specifically approve the array.

If figure-eight techniques are used during cable installation, the cable shall be handled manually and stored on the ground. The cable shall be placed on tarps to prevent damage from gravel, rocks, or other abrasive surfaces. Tarps should also be used in muddy conditions to keep the cable clean. Enough area to accommodate the cable length to be stored and sufficient personnel to maintain the required minimum-bending diameter as well as avoid kinking or otherwise damaging the cable shall be provided. If the cable has been figure-eighted in preparation for a forward feed, the figure-eight must be flipped over to access the outside cable end. Provide sufficient personnel to avoid kinking the cable as the figure-eight is flipped over. When removing

the cable from the figure-eight, use care to avoid kinking the cable and violating the minimum-bending diameter.

Power assisted or figure-eight eliminator equipment, which is used to eliminate manual figure-eight procedures, shall not be used unless specifically allowed by the cable manufacturer in writing.

The pulling tension shall be continuously measured and shall not be allowed to exceed the maximum tension specified by the manufacturer of the cable. A dynamometer or in-line tensiometer shall be used to monitor tension in the pull-line near the winch. This device must be visible to the winch operator or used to control the winch. The pulling system shall have an audible alarm that sounds whenever a pre-selected tension level is reached. Tension levels shall be recorded continuously and shall be given to the Engineer as well as included in the record drawing package.

The use of a breakaway link (swivel) may be used to ensure that the maximum tension of the cable is not exceeded. Breakaway links react to tension at the pulling eye and shall not be used in lieu of tension measuring devices. All pulling equipment and hardware which will contact the cable during installation must maintain the cable's minimum bend radius. Equipment including sheaves, capstans, bending shoes, and quadrant blocks shall be designed for use with fiber optic cable.

The cable shall be pulled into the conduit as a single component, absorbing the pulling force in all tension elements. The central strength member and Aramid yarn shall be attached directly to the pulling eye during cable pulling. "Basket grip" type attachments, which only attach to the cable's outer jacket, shall not be permitted. A breakaway swivel, rated at 95% of the cable manufacturer's approved maximum tensile loading, shall be used on all pulls. When simultaneously pulling fiber optic cable with other cables, separate grooved rollers shall be used for each cable.

To minimize the exposure of the backbone cable and to facilitate the longer lengths of fiber optic cable, the Contractor shall use a "blown cable" (pneumatically assisted) technique to place the fiber optic cable. A Compressed air cooler shall be used when ambient air temperatures reach 90°F or more.

Where cable is to be pulled through existing conduit which contains existing cables, optical or other, the existing cables shall be removed and reinstalled with the fiber optic cable as indicated on the Plans. The removal of the cable(s) shall be paid for separately. Reinstallation of the existing cables, if indicated on the Plans, along with the fiber optic cable shall be included in this item for payment.

Tracer Wire.

A tracer wire shall be installed with all fiber optic cable runs. One tracer wire shall be installed along with the fiber optic cable in each raceway. If a raceway has more than one fiber optic cable, only one tracer wire per raceway is required. If there are parallel raceways, a tracer wire is required in each raceway that contains a fiber optic cable. Tracer wire shall be installed in raceway segments which are metallic to provide a continuous tracer wire system.

The tracer wire shall be a direct burial rated, number 12 AWG (minimum) solid (.0808" diameter), steel core soft drawn high strength tracer wire. The wire shall have a minimum 380 pound average

tensile break strength. The wire shall have a 30 mil high density yellow polyethylene (HDPE) jacket complying with ASTM-D-1248, and a 30 volt rating.

Connection devices used shall be as approved by the tracer wire manufacturer, except wire nuts of any type are not acceptable and shall not be used.

The cost of the tracer wire shall be included in the cost of the fiber optic cable and not paid for separately.

Aerial Fiber Optic Cable.

Aerial fiber optic cable assemblies shall be of a self-supporting figure-8 design. The fiber optic cable shall be as described herein and shall be waterblocked utilizing water-swellable materials. The cable assembly shall be designed and manufactured to facilitate midspan access.

The submittal information must include a copy of the standard installation instructions for the proposed cable. Installed cable sag shall not exceed 1% of the span distance. The submittal information must also include catalog cuts for all hardware to be utilized in the installation.

Construction Documentation Requirements.

Installation Practices for Outdoor Fiber Optic Cable Systems

The Contractor shall examine the proposed cable Plant design. At least one month prior to starting installation of the fiber optic cable Plant, the Contractor shall prepare and submit to the Engineer for review and approval, ten (10) copies of the Contractor's "Installation Practices for Outdoor Fiber Optic Cable Systems" manual. This manual shall address the Contractor's proposed practices covering all aspects of the fiber optic cable Plant. This submittal shall include all proposed procedures, list of installation equipment, and splicing and test equipment. Test and quality control procedures shall be detailed as well as procedures for corrective action.

Operation and Maintenance Documentation

After the fiber optic cable Plant has been installed, ten (10) complete sets of Operation and Maintenance Documentation shall be provided. The documentation shall, as a minimum, include the following:

- Complete and accurate as-built diagrams showing the entire fiber optic cable Plant including locations of all splices.
- Final copies of all approved test procedures
- Complete performance data of the cable Plant showing the losses at each splice location and each terminal connector.
- Complete parts list including names of vendors.

Testing Requirements.

The Contractor shall submit detailed test procedures for approval by the Engineer. All fibers (terminated and un-terminated) shall be tested bi-directionally at both 1310 nm and 1550 nm with both an Optical Time Domain Reflectometer (OTDR) and a power meter with an optical source. For testing, intermediate breakout fibers may be concatenated and tested end-to-end. Any discrepancies between the measured results and these specifications will be resolved to the satisfaction of the Engineer.

Fibers which are not to be terminated shall be tested with a temporary fusion spliced pigtail fiber.
Mechanical splice or bare fiber adapters are not acceptable.

The Contractor shall provide the date, time and location of any tests required by this specification to the Engineer at least 5 working (7 calendar) days before performing the test. Included with the notification shall be a record drawing of the installed fiber optic cable system. The drawings shall indicate actual installed routing of the cable, the locations of splices, and locations of cable slack with slack quantities identified.

Upon completion of the cable installation, splicing, and termination, the Contractor shall test all fibers for continuity, events above 0.1 dB, and total attenuation of the cable. The test procedure shall be as follows:

A Certified Technician utilizing an Optical Time Domain Reflectometer (OTDR) and Optical Source/Power Meter shall conduct the installation test. The test equipment used shall have been calibrated within the last two years. Documentation shall be provided. The Technician is directed to conduct the test using the standard operating procedures defined by the manufacturer of the test equipment. All fibers installed shall be tested in both directions.

A fiber ring or fiber box shall be used to connect the OTDR to the fiber optic cable under test at both the launch and receive ends. The tests shall be conducted at 1310 and 1550 nm for all fibers.

All testing shall be witnessed by the IDOT Engineer and a copy of the test results (CD ROM or USB Drive) shall be submitted on the same day of the test. Hardcopies shall be submitted as described herein with copies on CD ROM.

At the completion of the test, the Contractor shall provide copies of the documentation of the test results to the Project Engineer. The test documentation shall be submitted as two bound copies and three CD ROM copies, and shall include the following:

Cable & Fiber Identification:

- Cable ID
- Cable Location - beginning and end point
- Fiber ID, including tube and fiber color
- Wavelength
- Pulse width (OTDR)
- Refractory index (OTDR)
- Operator Name
- Date & Time
- Setup Parameters
- Range (OTDR)
- Scale (OTDR)
- Setup Option chosen to pass OTDR "dead zone"

Test Results shall include:

- OTDR Test results
- Total Fiber Trace
- Splice Loss/Gain
- Events > 0.10 dB
- Measured Length (Cable Marking)
- Total Length (OTDR)
- Optical Source/Power Meter Total Attenuation (dB/km)

Sample Power Meter Tabulation:

Power Meter Measurements (dB)									
Location		Fiber No.	Cable Length (km)	A to B		B to A		Bidirectional Average	
A	B			1310 nm	1550 nm	1310 nm	1550 nm	1310 nm	1550 nm
		1							
		2							
Maximum Loss									
Minimum Loss									

The OTDR test results file format must be Bellcore/Telcordia compliant according to GR-196-CORE Issue 2, OTDR Data Standard, GR 196, Revision 1.0, GR 196, Revision 1.1, GR 196, Revision 2.0 (SR-4731) in a ".SOR" file format. A copy of the test equipment manufacturer's software to read the test files, OTDR and power, shall be provided to the Department. These results shall also be provided in tabular form, see sample below:

Sample OTDR Summary					
Cable Designation:	<i>TCF-IK-03</i>	OTDR Location:	<i>Pump Sta. 67</i>	Date:	<i>1/1/00</i>
Fiber Number	Event Type	Event Location	Event Loss (dB)		
			1310 nm	1550 nm	
<i>1</i>	<i>Splice</i>	<i>23500 Ft.</i>	<i>.082</i>	<i>.078</i>	
<i>1</i>	<i>Splice</i>	<i>29000 Ft.</i>	<i>.075</i>	<i>.063</i>	
<i>2</i>	<i>Splice</i>	<i>29000 Ft.</i>	<i>.091</i>	<i>.082</i>	
<i>3</i>	<i>Splice</i>	<i>26000 Ft.</i>	<i>.072</i>	<i>.061</i>	
<i>3</i>	<i>Bend</i>	<i>27000 Ft.</i>	<i>.010</i>	<i>.009</i>	

The following shall be the criteria for the acceptance of the cable:

The test results shall show that the dB/km loss does not exceed +3% of the factory test or 1% of the cable's published production loss. However, no event shall exceed 0.10 dB. If any event is detected above 0.10 dB, the Contractor shall replace or repair the fiber including that event point.

The total loss of the cable (dB), less events, shall not exceed the manufacturer's production specifications as follows: 0.5 dB/km at both 1310 and 1550 nm.

If the total loss exceeds these specifications, the Contractor shall replace or repair the cable run at the no additional cost to the state, both labor and materials. Elevated attenuation due to exceeding the pulling tension, or any other installation operation, during installation shall require the replacement of the cable run at no additional cost to the State, including labor and materials.

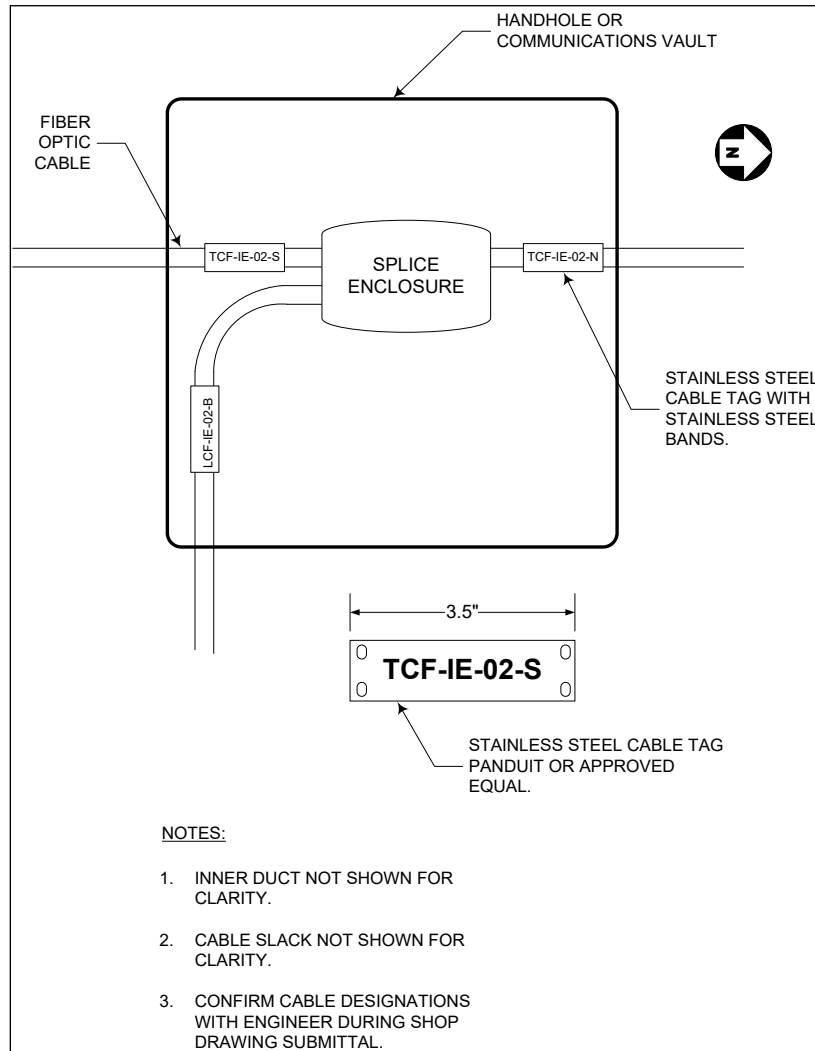
Splicing Requirements.

Splices shall be made at locations shown on the Plans. Any other splices shall be permitted only with the approval of the Engineer. Splices will be paid for separately. All splice locations must be identified in the Record Drawings. **Cable runs which dead-end at a handhole, communications vault, interconnect cabinet, or any other type of enclosure, shall be dead ended in a splice enclosure.**

Slack Storage of Fiber Optic Cables.

Included as a part of this item, slack fiber shall be supplied as necessary to allow splicing the fiber optic cables in a controlled environment, such as a splicing van or tent. After splicing has been completed, the slack fiber shall be stored underground in handholes or in the raised base adapters of ground mounted cabinets in accordance with the fiber optic cable manufacturer's guidelines. Fiber optic cable slack shall be 100 feet for each cable at each splice location, above or below ground. Fiber optic cable slack shall be 50 feet for each cable at access points, above or below ground, where splicing is not involved. If the innerduct is cut, the ends of the innerduct should extend beyond the first vertical rack so they can be secured at that point. This slack shall be measured for payment.

Fiber optic cable shall be tagged inside handholes with yellow tape containing the text: "CAUTION - FIBER OPTIC CABLE." In addition, permanent tags, as approved by the Engineer, shall be attached to all cable in a hand hole or other break-out environment. These tags shall be stainless steel, nominally 0.75" by 1.72", and permanently embossed. These tags shall be attached with stainless steel straps, and shall identify the cable number, the number of fibers, and the specific fiber count. Tags and straps shall be Panduit or approved equal. See figure below:



Label the destination of each trunk cable onto the cable in each handhole, vault or cable termination panel.

Method of Measurement. Fiber optic cable will be measured for payment in feet in place installed and tested. Fiber optic cable will be measured horizontally and vertically between the changes in direction, including slack cable. The entire lengths of cables installed in buildings will be measured for payment.

Basis of Payment. This work will be paid for at the contract unit price per foot for FIBER OPTIC CABLE, AERIAL, 96 FIBERS, SINGLE MODE or FIBER OPTIC CABLE 36 FIBERS, SINGLE MODE. Payment shall not be made until the cable is installed, spliced and tested in compliance with these special provisions.

POLYETHYLENE DUCT

Description. This item shall consist of furnishing and installing polyethylene duct of the type and size specified, as part of a raceway either laid in trench or bored and pulled in place, including all couplings, junctions, adapters, reducers, condulets and all incidental items necessary to complete the work at the locations indicated on the Plans or directed by the Engineer in accordance with the following requirements.

Materials. The flexible electrical plastic duct shall be manufactured to comply with the American Society for Testing and Materials Standards (latest edition) cited by ASTM Designation D 3485, and to the standards of NEMA Publication No. TC-7.

The duct shall be manufactured from black polyethylene complying with ASTM Designation D1248, Type III, Grade 3, Class C with the following exceptions and additions:

1. The Elongation when tested by the procedure in ASTM Designation D-638 shall be a minimum of 300%.
2. The Brittle Temperature when tested by Procedure A in ASTM Designation D-746 shall be -94 degrees F. (-70 degrees C.) or below.
3. The environmental Stress Crack Resistance when tested in accordance with ASTM Designation D-1693 shall produce not more than 2 failures per 10 specimens after 48 hours.

Construction: The duct shall be manufactured as polyethylene plastic pipe complying with ASTM Designation D-2104 with the following exceptions and additions:

1. The Outside Diameter, minimum wall thickness, and bending radius shall be as follows:

Nominal Size Inches/(mm)	Outside Diameter Inches/(mm)	Minimum Wall Thickness Inches/(mm)	Minimum Bending Radius Inches/(mm)
1-1/4"/(30)	1.660 ± 0.012" (42.16 ± 0.305)	0.106 ± 0.020 2.692 ± 0.508	18 inches (450)
2"/(50)	2.375 ± 0.012" 60.33 ± 0.305	0.158 ± 0.020 4.013 ± 0.508	26 in. (650)
3"/(75))	3.500 ± 0.012" (88.90 ± 0.305)	0.226 ± 0.020 5.740 ± 0.508	40in. (1000)

The duct may be manufactured to the dimensions in the above table, for Schedule 40. The duct must be capable of being bent in the minimum bending radius listed above.

2. When tested in accordance with the procedures and test methods referred to in ASTM Designation D-2104 the test pressures used shall be 75% of the values listed in Tables III, V, VI, VII.

3. The duct shall pass the following tests:

a) Freeze-up test:

A 10 ft (3.0m) length of the duct bent into an upright "U" shape shall be filled with water and then placed in a low temperature cabinet and maintained at -20 degrees C. for twenty-four hours. The duct shall not crack or burst during the test.

b) Compression Test:

The test shall be conducted on three, 6 inch (150.0mm) samples of the duct, using equipment set at 2 in.(50mm)per minute. Samples are placed between 6 in. (150.0 mm) plates and compressed at the rate of 1/2 in. (12.0mm) per minute until the distance between the plates is reduced by 50%, recording the load required to compress the duct. The samples are then removed and allowed to stand for exactly 5 minutes. The load required to compress the sample shall be equal to or greater than that listed below and the duct shall have returned to not less than 85% of its original diameter at the end of the 5 minutes.

Nominal Size	Load
<u>In. (mm)</u>	<u>lbs (N)</u>
1-1/4"(30.0)	188 lbs (836.26)
2 in. (50.0)	300 lbs (1334.50)
3 in (75.0)	350 lbs (1556.87)

The duct shall be permanently marked at regular intervals on the outside with the manufacturer's name or trademark.

The manufacturer shall certify that these tests were made and the results conform to specifications, using the apparatus and test methods listed above and shall be submitted to the Engineer for approval, prior to installation of duct.

Couplings shall be high density polyethylene or acetyl butyl styrene drive on pipe fittings.

Installation Details. Polyethylene duct will be installed in accordance with Section 810.04 of the Standard Specifications, except as modified herein.

The Contractor shall exercise care in installing the duct to ensure that the completed duct raceway is smooth, free of sharp bends and located in such a manner as will preclude damage from subsequent construction operations. Crushed or deformed polyethylene duct shall not be used or accepted. All joints, including those with galvanized steel conduit, shall be watertight.

Duct which passes through cabinet foundations shall have an upper termination approximately 2 inches (50mm) above the top of the foundation.

Duct terminations shall be temporarily capped to prevent water and other contaminants from entering during construction operations. The duct shall be swabbed and blown clean of any debris before installation of cable. If, in the opinion of the Engineer, water or any other debris is in the duct after the cable is installed the Contractor shall blow the duct clean and make any repair necessary to stop water leaking or debris entering.

Should damage occur to existing or newly installed polyethylene duct, the Contractor shall locate the damaged area and repair damaged area with new polyethylene duct. All repairs will be inspected by the Engineer. The cost of locating the damaged polyethylene duct shall be incidental to the cost of the new polyethylene duct.

Where new Polyethylene duct connects to existing installations or foundations the Contractor shall do all necessary cutting, fitting and foundation drilling to the existing installation as required, to make satisfactory connections, with the work to be performed under these Provisions, so as to leave the entire work in a finished and workmanlike manner, as approved by the Engineer. No raceways shall be allowed to enter cabinet through the sides or back walls. All cutting, fitting and foundation drilling shall be incidental to the cost of the polyethylene duct.

Method of Measurement. The length of measurement shall be the distance along a straight line measured per foot between changes in direction of the polyethylene duct and its connection to terminal structures, galvanized steel conduit or condulets.

Basis of Payment. This item will be paid at the contract unit price per lineal foot of POLYETHYLENE DUCT, for furnishing the specified size duct in place and connected at its terminal.

MAINTENANCE MOWING

Description. This work shall consist of mowing existing and proposed turf areas within the project limits throughout the duration of the project. The vegetation shall be mowed to obtain a height of no more than 6 inches.

Requirements. The equipment used for mowing shall be capable of completely severing growth at the cutting height and distributing evenly over the mowed area. The cut material shall not be windrowed or left in a lumpy or bunched condition. Subsequently, mowing may be required, as directed by the Engineer, on certain areas in order to disperse the mowed material. The Contractor will not be required to mow continuously wet ditches and drainage ways, slopes steeper than 1:3 (V:H), or other areas which may be designated as not able to be mowed by the Engineer. More than one cycle of mowing may be required during the duration of this contract.

Existing turf shall be mowed a minimum of once per year. Mowing will only be permitted between March 15th and October 15th.

Debris encountered during the mowing operation which hamper the operation or are visible from the roadway shall be removed and disposed of according to Article 202.03. Damage to the right-of-way and turf, such as ruts or wheel tracks more than 2 inches in depth in areas that will not be regraded with the contract, shall be repaired to the satisfaction of the Engineer prior to final inspection.

Method of Measurement. This work will be measured for payment in place and the area computer in acres.

Basis of Payment. This work will be paid for at the contract unit price per acre for MAINTENANCE MOWING.

SEEDING, CLASS 5C (SPECIAL)

The work shall consist of two (2) spray applications of Glyphosate to kill off existing grasses, Planting seed by a no till method and protective signage. No till methods that are acceptable include a seed drill, or hydraulic seeder. The application of the herbicide shall be applied first before planting any permanent seeding. The seed mixture of perennials and grasses is listed below and should be applied at 14 lbs/acre.

Botanical Name	Common Name	Oz / Acre
<u>Perennials</u>		
Agastache foeniculum	Lavender Hyssop	2
Aragalus canadensis	Canada Milk Vetch	8
Allium cernuum	Nodding Onion	2
Aquilegia canadensis	Columbine	2
Asclepias incarnata	Swamp Milkweed	4
Asclepias syriaca	Common Milkweed	4
Asclepias tuberosa	Butterfly Weed	4
Asclepias verticillata	Whorled Milkweed	2
Baptisia alba	White Wild Indigo	1
Baptisia australis	Blue Wild Indigo	1
Chamaecrista Fasciculata	Partridge Pea	8
Coreopsis lanceolata	Lanceleaf coreopsis	8
Coreopsis palmata	Prairie Coreopsis	1
Desmanthus illinoensis	Illinois bundleflower	8
Echinacea pallida	Pale Purple Coneflower	1
Echinacea purpurea	Purple Coneflower	8
Eryngium yuccifolium	Rattlesnake Master	1
Eupatorium maculatum	Spotted Joe Pye Weed	2
Helianthus grosseserratus	Sawtooth Sunflower	0.5
Heliopsis helianthoides	Early Sunflower	8
Liatris aspera	Rough Blazing Star	0.5
Liatris pycnostachya	Prairie Blazing Star	2
Lupinus perennis	Wild Lupine	4
Mondarda fistulosa	Prairie Bergamot	2
Penstemon digitalis	Foxglove Beard Tongue	2
Phlox pilosa	Prairie Phlox	0.25
Physostegia virginiana	Obedient Plant	1

Botanical Name	Common Name	Oz / Acre
Ruellia humilis	Wild Petunia	0.5
Silphium laciniatum	Compass Plant	1
Solidago speciosa	Showy Goldenrod	1
Symphotrichum novae-angliae	New England Aster	1
Symphotrichum oolentagienensis	Sky Blue Aster	0.5
Verbena stricta	Hoary vervain	1
Veronicastrum virginicum	Culver's Root	0.25
Zizia aurea	Golden Alexanders	4
<u>Grasses</u>		
Bouteloua curtipendula	Side Oats Grama	32
Bromus Kalmii	Prairie Brome	4
Elymus canadensis	Canada Wild Rye	64
Koeleria cristata	June Grass	2
Schizachyrium scoparium	Little Bluestem	16
Sporobolus heterolepis	Prairie Dropseed	8
	88.77 Seeds / Sq. Ft	222.5 oz / acre

Thirty days prior to the time of seeding, the Contractor shall provide the following.

- a. Name and location of the seed supplier.
- b. Origin and date of harvest of each of the various kinds of seed.
- c. A statement of the purity and germination of the seeds.
- d. The estimated number of seeds/lb of each of the kinds of seed to be furnished.

The monarch and pollinator species shall be of Illinois origin or from a bordering state.

Materials. The Contractor must have all chemicals delivered **from the supplier** in the original unopened packaging to the Illinois Department of Transportation Rockford Maintenance Yard, located at 4109 11th Street, in Rockford IL 61109, along with the certification of analysis 5 working days prior to the start of the contract. The Contractor shall contact the Resident Engineer to schedule the delivery.

Weeds shall be sprayed in two separate applications as described below:

The first spray mixture application (Rodeo or an approved equivalent and a non-ionic aquatic surfactant) shall consist of the following:

Glyphosate N-(phosphono-methyl) glycine, isopropylamine salt (Rodeo or an approved equivalent) shall be applied at a rate of three (3) quarts per acre.

Lecithin, methyl esters of fatty acids and alcohol ethoxylate (Liberate or an approved equivalent) approved by the Engineer shall be added to the mix at a rate of one (1) quart per 100 gallons of potable water or as per manufacturer's label recommendations.

This mixture shall be applied in not less than thirty (30) gallons of water per acre and uniformly applied at such a rate that each acre will receive three (3) quarts of Rodeo or an approved equivalent (liquid measure) and non-ionic surfactant. This mixture shall be continuously agitated during spraying operations.

The Contractor shall submit a certification of analysis to the Engineer stating that one compound contains not less than 53.8 percent Glyphosate IPA salt and the other is 100 percent Lecithin, methyl esters of fatty acids, and alcohol ethoxylate.

The second spray mixture application (Rodeo or an approved equivalent and a non-ionic aquatic surfactant) shall consist of the following:

Glyphosate N-(phosphono-methyl) glycine, isopropylamine salt (Rodeo or an approved equivalent) shall be applied at a rate of three (3) quarts per acre.

Lecithin, methyl esters of fatty acids and alcohol ethoxylate (Liberate or an approved equivalent) approved by the Engineer shall be added to the mix at a rate of one (1) quart per 100 gallons of potable water.

This mixture shall be applied in not less than thirty (30) gallons of water per acre and uniformly applied at such a rate that each acre will receive three (3) quarts of Rodeo or an approved equivalent (liquid measure) and non-ionic surfactant. This mixture shall be continuously agitated during spraying operations.

The Contractor shall submit a certification of analysis to the Engineer stating that one compound contains not less than 53.8 percent Glyphosate IPA salt and the other is 100 percent Lecithin, methyl esters of fatty acids and alcohol ethoxylate.

The certification of analyses shall be submitted to the Engineer five (5) business days prior to the start of the work.

The Contractor shall download the Material Safety Data Sheets for each herbicide, become familiar with the safety hazards, follow the handling & safety instructions, and provide this information to their field personnel.

Storage of materials shall be prohibited within the following environmentally sensitive areas:

- Areas determined by the Engineer.

Site Preparation. Site shall be mowed one or more times to a height of not more than 3 in. prior to the application of the herbicide. Then the site shall be sprayed the first week in August with Rodeo or equal and the first week of September. The spraying shall be completed first before planting any permanent seeding. Planting shall take place between May 15 to June 30 and October 15 to December 1. The equipment required is Article 250.03 (g) to Plant the pollinator mix.

Equipment. The capacity of the equipment shall be sufficient to perform the work and in the time period as specified herein, and as approved by the Engineer.

Vehicles shall be capable of spraying the targeted areas while minimally impacting the turf and right-of-way. Only low ground pressure off-road vehicles shall be used.

Spray mixture tanks shall have sight gauges calibrated in English units for easy measurement, and mechanical or by-pass agitation systems to ensure thorough and continuous mixing of the chemicals.

Spray nozzles shall be selected which are designed to reduce potential herbicide drift. Improved flat fan nozzles or large capacity flooding nozzles shall be used which are capable of delivering up to 100 GPA at pressures of 20-40 PSI.

Pumps shall be capable of delivering up to 100 GPA at pressures of 20-40 PSI, and to keep the spray pattern full and steady without pulsation.

WATER SUPPLY

Potable water shall be used on the contract. No water will be allowed to be pumped from nearby creeks, ponds, or other bodies of water. The Contractor shall provide a list of source locations where the potable water will be obtained. The Contractor shall provide the list to the Engineer at the pre-construction conference. All proposed sources of water shall be approved by the Engineer.

PROTECTION OF THE ENVIRONMENT

Spray operations shall be suspended by the Engineer when:

1. Rain is in progress in the District or if rain is forecast with a minimum 50% probability to occur in the District within 8 hours of application.
2. Winds exceed 10 mph or excessive drifting is observed by the Engineer.
3. A temperature inversion exists (cold ground layer of air with warm air aloft).
4. The Contractor shall stop all spraying when crossing any stream, lake, reservoir, or wetland adjacent to the right of way.
5. The Contractor shall not spray within 150 feet of designated natural areas, wetlands, identified locations where State or Federal-listed endangered or threatened species are known to occur as specified below.

Method of Measurement. Seeding of the class specified will be measured in acres of surface area seeded or mowed.

Basis of Payment. Pollinator mix will be paid for at contract unit price per acre for SEEDING, CLASS 5C (SPECIAL), which price shall include all equipment, materials and labor as specified herein.

Mowing will be paid for at the contract unit price per acre for MOWING.

AGGREGATE SUBGRADE IMPROVEMENT 12” (SPECIAL) (ILLINOIS TOLLWAY)

This Special Provision shall only be utilized for aggregate subgrade placed between I-39 SB stations 2747+00.00 and 2751+53.11.

Effective: October 29, 2012

Revised: April 6, 2022

Description. This work shall consist of furnishing, transporting, placing, compacting and finishing an aggregate subgrade on the finished subgrade in accordance with this special provision and to the lines, dimensions, and cross sections shown on the Plans, and as required by the Engineer. Subgrade aggregate consists of porous granular embankment (PGE) aggregate and a dense graded capping aggregate. The specified thickness of subgrade aggregate will include 3-inches of capping aggregate on the top (thickness varies under shoulders) and PGE below the capping aggregate to the specified depth.

Materials. The materials used for SUBGRADE AGGREGATE shall consist of the following: If recycled aggregate is used for this application, work shall be in accordance with the Illinois Tollway Special Provision for Production of Recycled Aggregate, including completion of the Illinois Tollway A-60 Form “Material Management Plan for Production of Recycled Aggregate”.

Porous Granular Embankment (PGE)

The coarse aggregate for PGE shall be crushed stone, crushed blast furnace slag, crushed gravel, or crushed concrete. Crushed concrete shall have no more than 5% RAP. Virgin steel slag aggregates and other expansive materials as determined through testing by the Illinois Tollway will not be permitted. The coarse aggregate for PGE shall consist of sound durable particles with no more than 5% deleterious material as per Illinois Test Procedure (ITP) 203 in the IDOT Manual of Aggregate Quality Test Procedures.

Gradation testing of PGE shall follow Tollway Testing Procedure (TTP) 003 in the Illinois Tollway Manual of Modified Test Procedures. When the coarse aggregate for PGE thickness is nine inches or greater, the coarse aggregate gradation shall be as follows:

<u>Sieve Size</u>	<u>Percent Passing</u>
8 inches	100
6 inches	97±3
4 inches	90±10
2 inches	45±15
#4	15±15
#200	4±4

When the coarse aggregate for PGE thickness is less than nine inches, the coarse aggregate gradation shall be as follows:

<u>Sieve Size</u>	<u>Percent Passing</u>
5 inches	100
4 inches	85±15
2 inches	45±15
#4	15±15
#200	4±4

Capping Aggregate

The coarse aggregate for the 3-inch lift of capping aggregate shall consist of sound durable particles with less than 5% deleterious material (as per ITP 203) with a gradation of CA-6 for processed material from an approved source with the Contractor having the option to use screened RAP from an approved source. Virgin steel slag aggregates and other expansive materials as determined through testing by the Illinois Tollway will not be permitted.

The RAP shall have less than 10% concrete content and shall meet the following requirements. Gradations may be performed dry, without the need for washing per ASTM C 136.

- 1) The material shall have 100% passing the 1.5-inch sieve and be well graded down through fines.
- 2) The material shall be determined as well graded by calculating the Coefficient of Uniformity (Cu) and Coefficient of Curvature (Cc) per ASTM D2487, with required Cu ≥ 4.0, and Cc ≥ 1.0 and ≤ 3.0.

CONSTRUCTION REQUIREMENTS

The SUBGRADE AGGREGATE shall be placed in two layers. The top layer shall consist of a 3-inch variable nominal thickness top lift of capping. The thickness of the capping aggregate under asphalt shoulders will vary as a result of shoulder pavement thicknesses and shoulder surface or shoulder subgrade slope requirements as shown on the Plans. The maximum lift thickness of the capping aggregate shall be 4 inches. If used as the capping aggregate, the RAP shall be separated and stockpiled before use. The bottom lift shall consist of the PGE material, with minimum thickness being the total thickness for the specified SUBGRADE AGGREGATE item minus the 3-inch lift of capping aggregate. Maximum lift thickness of the PGE shall be 12 inches. A vibratory roller meeting the requirements of Article 1101.01(g) of the Standard Specifications shall be used to roll each lift of material to obtain the desired keying or interlock and necessary compaction. The Engineer will verify that adequate keying has been obtained.

The capping aggregate shall be installed as soon as possible and within seven days of PGE placement. Material removed during underdrain installation shall not be incorporated into the work as subgrade aggregate.

If CA-6 is used as capping aggregate, placement and compaction of the capping aggregate shall be in accordance with Article 311.05(a) of the Standard Specifications. If RAP is used as capping aggregate, the capping aggregate shall be tested and controlled for compaction using the percent growth curve method as defined below.

The Contractor shall perform a growth curve at the beginning of placement of the capping aggregate. If the aggregate or base condition changes, the Engineer reserves the right to request an additional growth curve and supporting tests at no additional cost to the Illinois Tollway.

Compaction of the growth curve shall commence immediately after the course is placed. The growth curve, consisting of a plot of lbs./cu ft. vs. number of passes with the project vibratory roller, shall be developed. This curve shall be established by use of a nuclear gauge. Tests shall be taken after each pass until the highest lbs./cu ft. is obtained. A new growth curve is required if the breakdown roller used on the growth curve is replaced with a new roller during production.

The Contractor will establish a target density for its Quality Control nuclear gauge from the growth curve location. The target density 95%-102% shall apply only to the specific QC gauge used. If additional QC gauges are to be used to determine density specification compliance, the Contractor shall establish a unique minimum allowable target density from the growth curve location for each gauge. Quality Assurance will test a minimum of 20% of QC required testing frequency.

All lifts shall be compacted to an average density of not less than 95 percent nor greater than 102 percent of the target density obtained on the growth curve. The average density shall be based on tests representing one day's production.

Quality Control density tests shall be performed at randomly selected locations within ¼ mile intervals. In no case shall more than one half day's production be completed without density testing being performed.

If the Contractor is not controlling the compaction process and is making no effort to take corrective action, the operation shall stop as directed by the Engineer.

After fine grading or trimming of the capping aggregate, the Contractor shall perform a final proof roll to be witnessed and approved by the Engineer to verify the stability of the subgrade aggregate.

Method of Measurement. This work will be measured for payment in square yards, of the thickness specified.

Basis of Payment. This work will be paid at the contract unit price per square yard for AGGREGATE SUBGRADE IMPROVEMENT 12" (SPECIAL).

TEMPORARY PAVEMENT (INTERSTATE)

This work shall consist of placing a Hot-Mix Asphalt Binder Course or Portland Cement Concrete Pavement (Jointed) with a stabilized subbase and aggregate subgrade improvement to serve as temporary pavement at the locations shown on the Plans along I-39. The choice of material to be used for this item is left to the Contractor to choose from the following options:

HOT-MIX ASPHALT OPTION

This work shall consist of placing and compacting 12 inches of Aggregate Subgrade Improvement and constructing 13.5 inches of Hot-Mix Asphalt Binder Course along I-39 to serve as temporary pavement at the locations shown on the Plans.

The hot-mix asphalt option shall be used for the temporary pavement to remain along I-39.

Temporary shoulders shall be the same materials as the temporary traveled way pavement.

This work shall consist of designing, producing and constructing a HMA Binder Course on a prepared base, according to Sections 311, 406, 1030 and 1102 of the Standard Specifications, except as follows.

Refer to the plans for mixture requirements.

Required Field Tests. Density Acceptance at 95% - 102% of growth curve at the frequency indicated in Article 1030.05(d)(3).

PORTLAND CEMENT CONCRETE OPTION

This work shall consist of placing and compacting 12 inches of Aggregate Subgrade Improvement, 4 inches of Stabilized Subbase and constructing an 11 inch thick Portland Cement Concrete Base Course along I-39 to serve as temporary pavement at the locations shown on the Plans. The minimum width shall be 2 feet. This work shall be completed according to Sections 311, 312 and 420 of the Standard Specifications.

Temporary shoulders shall be the same materials as the temporary traveled way pavement.

Welded wire reinforcement shall not be utilized in the base course.

The Contractor shall saw longitudinal joints in base courses wider than 16 feet, according to Standard 420001, except that uncoated steel tie bars may be used instead of epoxy coated tie bars. These joints shall not be sealed.

The Contractor shall saw transverse joints in the base course at 20' centers according to the detail for Sawed Construction Joints in Standard 420001, except that dowel bars are not required. These joints shall not be sealed.

Existing sign panels and appurtenances that conflict with temporary pavement construction shall be temporarily relocated as specified in the plans and shall be included in the cost per square yard for TEMPORARY PAVEMENT (INTERSTATE).

All work, excluding earth excavation, and materials required to complete the work listed above shall be included in the contract unit cost per square yard for TEMPORARY PAVEMENT (INTERSTATE).

Method of Measurement. TEMPORARY PAVEMENT (INTERSTATE) will be measured for payment in square yards in place.

Basis of Payment. All work as listed above, including tie bars, sawed joints, and all other required materials shall be included in the contract unit price per square yard for TEMPORARY PAVEMENT (INTERSTATE).

Removal shall be paid for separately under TEMPORARY PAVEMENT REMOVAL.

Earth excavation will be paid for separately under EARTH EXCAVATION. Earth excavation quantities for temporary pavement were calculated using the Portland Cement Concrete option unless stated otherwise above. If the Hot-Mix Asphalt option is used no adjustments will be made to the quantities.

TEMPORARY PAVEMENT REMOVAL

This work shall be in accordance with Section 440 of the Standard Specifications and shall consist of removing the previously installed temporary pavement once construction staging allows for traffic to be shifted outside of these areas and the use of the temporary pavement is complete.

The removal of temporary pavement shall include the base course and sub-base.

This work shall also include the restoration of any areas outside of the ultimate pavement limits (outside Project Begins/Ends) as noted in the plans.

Restoration of areas inside the ultimate pavement limits shall be covered under the applicable pay items.

Method of Measurement. TEMPORARY PAVEMENT REMOVAL will be measured for payment in square yards.

Basis of Payment. This work will be paid for at the contract unit price per square yard for TEMPORARY PAVEMENT REMOVAL.

JOINT TRIMMING

Effective: March 1, 2022

The following is the sequence for milling and paving:

1. If specified in the contract, mill both lanes and shoulders for the entire project.
2. Place the HMA binder on both driving lanes and shoulders for the entire project.
3. On the first lane to be paved, place the tack coat and new HMA surface course 6 in. wider than the joint to be trimmed.
4. After surfacing the first driving lane and prior to cleaning and start of surfacing on the following lane or shoulder, mill off the extra 6 in. of new HMA surface to the joint location, per the typical sections. The milling equipment must be capable of producing a straight line. The depth of the milling must be controlled so as not to gouge the underlying binder lift. The intent is to create a vertical face at the joint and provide lateral confinement for the following surface course material. Skid steer mounted mills will not be allowed.
5. Clean and prepare the surface of the remaining shoulder or lane for HMA placement as per Article 406.05 of the Standard Specifications. The tack coat shall be sprayed the full width of the HMA shoulder or lane and also lapped onto the newly trimmed joint a distance not to exceed 4 in. This additional width is to ensure the vertical face of the adjacent mat is adequately covered with tack coat.
6. Placement of surface course at the trimmed joint shall require the compacted height of HMA to be exactly flush, or not more than 1/32 in. higher, than the adjacent lane to ensure the joint has sufficient material for adequate compaction and proper drainage. During placement, the side plate of the screed shall not exceed 1/2 in. overlap onto the adjacent lane.

The milling of new HMA 6 in. extra width at the joint to be trimmed will be paid for at the contract unit price per square yard for HOT-MIX ASPHALT SURFACE REMOVAL (SPECIAL).

The additional tack coat will be paid for at the contract unit price per pound of residual asphalt for BITUMINOUS MATERIAL (TACK COAT).

The additional HMA surface course will be paid for at the contract unit price per ton for HOT-MIX ASPHALT SURFACE COURSE, of the friction aggregate mixture and Ndesign specified. All other extra work will not be paid for separately but shall be included in the unit bid price of the various pay items and no other compensation will be allowed.

ISLAND REMOVAL

Description. This work shall consist of the removal and disposal of the islands as shown on the plans. This work shall be done in accordance with applicable portions of Section 440 of the Standard Specifications and shall include the removal of the concrete island surface, concrete curb & gutter, and excavation below the concrete to a depth of the bottom of the adjacent concrete pavement.

Method of Measurement. This work will be measured in place per square foot of ISLAND REMOVAL.

Basis of Payment. This work will be paid for at the contract unit price per Square Foot for ISLAND REMOVAL.

REMOVE CONCRETE BOX CULVERT END SECTION

Description. This work shall include furnishing all labor, material, and equipment necessary for removing and disposing of existing box culvert end section(s) at locations shown in the Contract Plans and as directed by the Engineer. This work shall be performed in accordance with the applicable portions of Section 501 of the Standard Specifications, the details in the project plans, and as herein specified.

General. The work shall include excavation and disposal of the existing structure and incidentals for the REMOVE CONCRETE BOX CULVERT END SECTION locations as shown on the plans. The Contractor shall ensure that any embankment fill is accordance with all plans and specifications.

Method of Measurement. This work will be measured in place per each of REMOVE CONCRETE BOX CULVERT END SECTION.

Basis of Payment. This work will be paid for at the contract unit price per each for REMOVE CONCRETE BOX CULVERT END SECTION, which price shall be payment in full for all equipment, labor, materials, fabrication, excavation and backfilling, dewatering, bedding, construction and all incidentals required to construct the complete REMOVE CONCRETE BOX CULVERT END SECTION as shown on the Contract Plans.

TRAVERSABLE PIPE GRATE (SPECIAL)

Description. This work shall consist of constructing and installing a traversable pipe grate at the locations shown on the plans or as directed by the Engineer. Pipe grates shall be installed in accordance with the applicable portions of Section 542 of the Standard Specifications, and as detailed in the plans.. Pipe grates shall be sized to fit the end sections as detailed on the plans.

Materials. The materials shall meet the applicable sections of Section 542 of the Standard Specifications.

Method of Measurement. This work will be measured per foot of grate.

Basis of Payment. This work shall be paid for at the contract unit price per foot for TRAVERSABLE PIPE GRATE (SPECIAL) and shall include all equipment, materials, labor, tools and equipment required to complete the work.

ABANDON AND FILL EXISTING STORM SEWER

Description. This work shall consist of filling storm sewers to be abandoned at the locations shown on the plans or as directed by the Engineer. The storm sewers to be abandoned shall be cleaned and televised prior to filling. If blind-ties or other unknown conditions are noted in the existing storm sewer to be abandoned, the Engineer shall be notified for further disposition prior to abandoning and filling the existing storm sewer.

Construction Requirements. The Contractor shall plug the ends of the pipe with Class SI Concrete or brick and suitable mortar to the satisfaction of the Engineer, and fill the remaining length of pipe with Controller Low-Strength Material (CLSM). The CLSM must meet the material requirements of Article 593.02.

Storm sewers intended for use to maintain storm water flow during staged construction shall not be abandoned and filled until proposed storm sewer construction is completed to maintain flow.

Method of Measurement. This work will be measured for payment in foot for the pipe to be abandoned and filled in place.

Basis of Payment. This work will be paid for at the contract unit price per foot for ABANDON AND FILL EXISTING STORM SEWER, which price shall include all materials, labor, tools and equipment, and backfilling of any excavation at locations shown in the plans, as specified herein, and as directed by the Engineer.

Cleaning and televising the storm sewer shall be included in the cost of this item, ABANDON AND FILL EXISTING STORM SEWER.

CONTROL STRUCTURES (SPECIAL)

Description. This work shall include all labor, material, and equipment necessary for the installation of CONTROL STRUCTURES of the number specified and as detailed in the Contract Plans in accordance with Sections 602 & 1006 of the Standard Specifications, as directed by the Engineer, and as specified herein.

General. The Contractor shall furnish and place precast or cast-in-place structures and all incidental parts meeting the dimensions and angles of the details in the Plans.

Method of Measurement. This work will be measured in place per each for CONTROL STRUCTURES (SPECIAL), of the number specified.

Basis of Payment. This work will be paid for at the contract unit price per each for CONTROL STRUCTURES (SPECIAL) of the number specified, which price shall be payment in full for all equipment, labor, materials, fabrication, excavation and backfilling, dewatering, bedding, construction and all incidentals required to construct the complete CONTROL STRUCTURES (SPECIAL) of the number specified and to the dimensions and grades shown on the Plans.

INLETS, SPECIAL, WITH FRAME AND GRATE

Description. This work shall include all labor, material, and equipment necessary for the installation of INLETS, SPECIAL, WITH FRAME AND GRATE at locations shown on the plans in accordance with Sections 602 and 604 of the Standard Specifications, as directed by the Engineer, and as specified herein. The INLETS, SPECIAL, WITH FRAME AND GRATE shall have interior horizontal dimensions of 3-ft x 4-ft, with depth as specified in the plans. The top shall be closed and shall utilize SLOTTED DRAIN 18' WITH VARIABLE SLOT (paid for separately) as the frame and grate portion of the structure.

General. The contractor shall furnish and place precast or cast-in-place structures and all incidental parts meeting the dimensions and angles of the details in the plans. The structure shall allow underdrain and slotted drain connections.

Method of Measurement. This work will be measured in place per each for INLETS, SPECIAL, WITH FRAME AND GRATE.

Basis of Payment. This work will be paid for at the contract unit price per each for INLETS, SPECIAL, WITH FRAME AND GRATE, which price shall be payment in full for all equipment, labor, materials, fabrication, excavation and backfilling, dewatering, bedding, construction and all incidentals required to construct the complete INLETS, SPECIAL, WITH FRAME AND GRATE, as described above, and according to the details shown on the plans.

TEMPORARY DRAINAGE CONNECTION

Description. This work shall consist of installing and removing temporary storm sewer connections, temporary culvert connections, temporary direct connections between pipes, and temporary catch basins, inlets and manhole structures, in order to maintain existing drainage system functionality as well as flows from ditches, as shown in the plans and in accordance with Section 542, 550 and 602 of the Standard Specifications.

Storm sewers, catch basins, inlets and manholes used as drainage structures for proposed temporary connections shall be furnished, installed, and removed as specified in the plans, except that the material for the storm sewer, catch basin, inlet or manhole need not be new material.

Direct connections will be allowed to or from existing pipes that will be removed in a subsequent construction stage. Temporary catch basins or temporary manholes shall be used for connections at new storm sewer or culvert pipes placed by contract.

After temporary storm sewers, temporary pipes, and temporary structures have been removed they shall become the property of the contractor. Backfill of excavation is included in the cost of this item.

Method of Measurement. This work will be measured for payment in units of each.

Basis of Payment. This work shall be paid for at the contract unit price per each TEMPORARY DRAINAGE CONNECTION.

CATCH BASINS, TYPE A, 4'-DIAMETER W/ GRATE NO. 1 (SPECIAL)

Description. This work shall include all labor, material, and equipment necessary for the installation of CATCH BASINS, TYPE A, 4'-DIAMETER W/ GRATE NO. 1 (SPECIAL) at locations shown on the Contract Plans, in accordance with IDOT Standard 602001-02, Sections 602 and 604 of the Standard Specifications, as directed by the Engineer, and as specified herein. Grate shall be equivalent to the specifications for a Neenah Grate R-4349-C.

General. The Contractor shall furnish and place precast or cast-in-place structures, frame and grate, and all incidental parts meeting the dimensions and angles of the details in the Plans.

Method of Measurement. This work will be measured in place per each for CATCH BASINS, TYPE A, 4'-DIAMETER W/ GRATE NO. 1 (SPECIAL).

Basis of Payment. This work will be paid for at the contract unit price per each for CATCH BASINS, TYPE A, 4'-DIAMETER W/ GRATE NO. 1 (SPECIAL), which price shall be payment in full for all equipment, labor, materials, fabrication, excavation and backfilling, dewatering, bedding, construction and all incidentals required to construct the complete CATCH BASINS, TYPE A, 4'-DIAMETER W/ GRATE NO. 1 (SPECIAL) to the dimensions and grades shown on the Plans.

CATCH BASINS, TYPE A, 5'-DIAMETER W/ GRATE NO. 1 (SPECIAL)

Description. This work shall include all labor, material, and equipment necessary for the installation of CATCH BASINS, TYPE A, 5'-DIAMETER W/ GRATE NO. 1 (SPECIAL) at locations shown on the Contract Plans, in accordance with IDOT Standard 602001-02, Sections 602 and 604 of the Standard Specifications, as directed by the Engineer, and as specified herein. Grate shall be equivalent to the specifications for a Neenah Grate R-4349-C.

General. The Contractor shall furnish and place precast or cast-in-place structures, frame and grate, and all incidental parts meeting the dimensions and angles of the details in the Plans.

Method of Measurement. This work will be measured in place per each for CATCH BASINS, TYPE A, 5'-DIAMETER W/ GRATE NO. 1 (SPECIAL).

Basis of Payment. This work will be paid for at the contract unit price per each for CATCH BASINS, TYPE A, 5'-DIAMETER W/ GRATE NO. 1 (SPECIAL), which price shall be payment in full for all equipment, labor, materials, fabrication, excavation and backfilling, dewatering, bedding, construction and all incidentals required to construct the complete CATCH BASINS, TYPE A, 5'-DIAMETER W/ GRATE NO. 1 (SPECIAL) to the dimensions and grades shown on the Plans.

MANHOLES, TYPE A, WITH SPECIAL FRAME AND GRATE

Description. This work shall include all labor, material, and equipment necessary for the installation of MANHOLES, TYPE A, WITH SPECIAL FRAME AND GRATE of the diameter specified at locations shown on the Contract Plans, in accordance with IDOT Standard 602001-02, Sections 602 and 604 of the Standard Specifications, as directed by the Engineer, and as specified herein. Grate shall be equivalent to the specifications for a Neenah Grate R-4349-C, as shown on the plans as Grate No 1 (Special).

General. The Contractor shall furnish and place structures, frame and grate, and frame and grate, and all incidental parts meeting the dimensions and angles of the details in the Plans.

Method of Measurement. This work will be measured in place per each for MANHOLES, TYPE A, WITH SPECIAL FRAME AND GRATE of the diameter specified.

Basis of Payment. This work will be paid for at the contract unit price per each for MANHOLES, TYPE A, 7'-DIAMETER, WITH SPECIAL FRAME AND GRATE or MANHOLES, TYPE A, 6'-DIAMETER, WITH SPECIAL FRAME AND GRATE, which price shall be payment in full for all equipment, labor, materials, fabrication, excavation and backfilling, dewatering, bedding, construction and all incidentals required to construct the complete MANHOLES, TYPE A, 7'-DIAMETER, WITH SPECIAL FRAME AND GRATE or MANHOLES, TYPE A, 6'-DIAMETER, WITH SPECIAL FRAME AND GRATE to the dimensions and grades shown on the Plans.

DOUBLE INLET (SPECIAL)

Description. This work shall be done according to IDOT District 2 detail 12.2 Double Inlet, Special.

Method of Measurement. This work will be measured in place per each for DOUBLE INLET (SPECIAL).

Basis of Payment. This work will be paid for at the contract unit price per each for DOUBLE INLET, SPECIAL.

INLETS (SPECIAL)

Description. This work shall include all labor, material, and equipment necessary for the installation of INLETS (SPECIAL) at locations shown on the plans in accordance with Sections 602 and 604 of the Standard Specifications, as directed by the Engineer, and as specified herein.

General. The contractor shall furnish and place precast or cast-in-place structures and all incidental parts meeting the dimensions and angles of the details in the plans. The structure shall be constructed in accordance with District 2 Detail 10.2 Inlets, Special.

Method of Measurement. This work will be measured in place per each for INLETS (SPECIAL).

Basis of Payment. This work will be paid for at the contract unit price per each for INLETS (SPECIAL), which price shall be payment in full for all equipment, labor, materials, fabrication, excavation and backfilling, dewatering, bedding, construction and all incidentals required to construct the complete INLETS (SPECIAL) to the dimensions and grades shown on the plans.

SANITARY MANHOLES TO BE REMOVED

Description: This work shall conform to Four Rivers Sanitation Authority (FRSA) requirements, details, and provisions.

This work shall consist of removing existing sanitary sewer manholes of various diameter or size, including outside drop manholes as required to construct this project. Any existing sanitary sewers to be abandoned as part of the manhole removal shall be bulkheaded with a watertight plug. This work shall conform to Section 605.03 of the IDOT Standard Specifications for Road and Bridge Construction, current edition.

This work shall include complete removal of existing sanitary manholes, and all equipment, tools, transportation, dewatering, bypass pumping (if needed), services and performance of all operations required to remove manholes as shown on the plans.

This work shall include all earth excavation, trench backfill and compaction, as required, in accordance with all applicable IDOT provisions and specifications.

Method of Measurement. This work will be measured in place per each for SANITARY MANHOLES TO BE REMOVED.

Basis of Payment: This work shall be paid for at the contract unit price each for SANITARY MANHOLES TO BE REMOVED.

SANITARY MANHOLES TO BE ADJUSTED

Description. This work shall conform to Four Rivers Sanitation Authority (FRSA) requirements, details, and provisions, and Section 602 of the IDOT Standard Specifications for Road and Bridge Construction, current edition. This work shall include all equipment, materials, labor, transportation, and workmanship to adjust sanitary manholes as shown on the plans.

This work shall be in accordance with the FRSA Standard Detail Sheet.

This work shall consist of removing existing manhole frames and lids, removing all brick/precast adjusting rings, and all other materials, furnishing and installing new adjusting rings as required, furnishing and installing exterior manhole adjustment seals and new frames and lids.

This work shall include all earth excavation, trench backfill and compaction as required, in accordance with all applicable IDOT provisions and specifications.

This work shall include adjusting manhole frames to finish grade. The frame and lid shall be set 1/4 inch min. to 3/8 inch max. below final grade in pavement and at final grade in turf areas. All proposed rim elevations shall be obtained from the roadway reconstruction plan and profile plan sheets or from IDOT.

This work shall include the removal of all existing adjustment (whether brick or concrete), and replacement with new adjusting rings. The combination of new adjusting rings shall be such that the minimum number of rings possible are used.

Allowable types of adjusting rings include precast concrete and expanded polypropylene (EPP). These can be used in conjunction with each other, except that a precast concrete ring shall not be placed over an EPP ring.

For precast concrete adjusting rings:

All adjusting ring joints, as well as the joint between the frame and adjustment ring, shall be sealed watertight by means of an all-weather rubber butyl sealant designed for the purpose of sealing concrete structures water-tight. The adjusting ring surface shall be dry and free of foreign material. The surface shall be dried and heated with a weed burner when outside temperatures are less than optimum for adhesion of the sealant to the concrete.

Frames in the roadway shall be pitched to match the slope of pavement. EPP taper rings are required when frames are pitched.

For expanded polypropylene (EPP) adjusting rings:

The use of EPP adjustment rings shall be according to Sections 602 and 1043 of the IDOT Standard Specifications, and Supplemental Specifications & Recurring Special Provisions, most recent edition. The EPP adjustment rings shall be installed according to the manufacturer's instructions. If the top surface of the manhole is not level, even, or is irregular, a non-shrink grout shall be placed to create a level surface and the first EPP ring shall be bedded and leveled in the non-shrink grout. The joints between the manhole, all adjustment rings, and the frame shall be sealed with the manufacturer's recommended/specified adhesive. The top ring shall be a 'finish ring' when pitching the frame is not necessary.

Frames in the roadway shall be pitched to match the slope of pavement. The top ring shall be a tapered 'adjustment' ring when pitching the frame is required. Shimming is not an acceptable method of pitching when using EPP rings. The upper most ring shall have grooves on the lower surface and a flat upper surface.

External adjustment seals are required, regardless of the type of adjustment rings used. Heat shrinkable adjustment seals shall not be used with EPP rings.

The maximum height of adjustment shall be 12 inches. The distance between the top of the frame to the first manhole step shall be no more than 30 inches. A maximum of one (1) 2 inch adjusting ring will be allowed.

The Contractor shall install an FRSA approved exterior adjustment seal on all manholes as shown on the FRSA Standard Detail sheet.

Materials.

1. Adjusting rings:
 - a. Precast concrete adjusting rings shall be standard reinforced concrete pipe pattern and shall conform to ASTM C478 and ASTM C139. There shall be no spalled edges or cracks. Precast concrete adjusting rings shall be size 4 inch height or greater.
 - b. Expanded polypropylene (EPP) rings shall be in accordance with Section 1043 of the IDOT Standard Specifications.
2. Adjusting ring sealant:
 - a. Precast concrete adjusting ring sealant shall be a flexible rubber butyl pre-formed sealant designed for the purpose of making concrete structure joints water-tight. Material shall conform to ASTM C990.
 - b. EPP ring sealant used for watertight installation of the EPP rings shall meet ASTM C 920, Type S, Grade NS, Class 25, Uses NT, T, M, G, A, and O.
3. Manhole exterior adjustment seals (chimney seals) shall be of a rubber compound in accordance with ASTM C-923 and shall have two stainless steel compression bands also in accordance with ASTM C-923.
4. Manhole frames & lids:
 - a. Manhole frames and lids shall be per the approved frames and lids in the table below:

Approved Frames & Lids				
	Neenah Frame	Neenah Lid	East Jordan Frame	East Jordan Lid
Regular	1670-2004	R-1670-0358	00111711	00111732
Low Profile	1670-2008	R-1670-0358	---	---
Bolt Down *	1915JT08		---	---

* For manholes connected to mains 18" diameter or larger, or for manholes located in flood prone areas, frames & lids shall be the bolt down type.

Manhole adjustment insert riser rings are not approved for use.

Required Submittals.

1. Manhole adjustment ring material specifications.
2. Manhole adjustment ring sealant material specifications.
3. Manhole exterior adjustment seal (chimney seal) material specifications.
4. Manhole frame and lid material specifications.

Method of Measurement. This work will be measured in place per each for SANITARY MANHOLES TO BE ADJUSTED WITH NEW TYPE 1 FRAME, CLOSED LID.

Basis of Payment. This work shall be paid for at the contract unit price per each for SANITARY MANHOLES TO BE ADJUSTED WITH NEW TYPE 1 FRAME, CLOSED LID.

SANITARY MANHOLES TO BE RECONSTRUCTED

Description. This work shall conform to Four Rivers Sanitation Authority (FRSA) requirements, details, and provisions, and Section 602 of the IDOT Standard Specifications for Road and Bridge Construction, current edition. This work shall include all equipment, materials, labor, transportation, and workmanship to reconstruct sanitary manholes as shown on the plans.

This work shall be in accordance with the FRSA Standard Detail Sheet.

This item shall include installation of a new precast cone or barrel sections of various diameters, furnishing and installation of new adjusting rings as required, frames and lids, and exterior manhole adjustment seals, and adjustment of sanitary manholes.

All manholes to be reconstructed for this project are existing precast concrete barrel and cone sections. The Contractor shall remove and dispose of manhole frames and lids, all brick/precast manhole adjustment, remove and dispose of existing precast cone and/or precast barrel sections, and furnish and install new precast barrel and/or cone sections. Removal shall stop at a point of sound structure. The Contractor shall be responsible for determining the configuration of new barrel and/or cone sections required to meet the requirements of the FRSA Standard Detail Sheet.

This work shall include all earth excavation, trench backfill and compaction as required, in accordance with all applicable IDOT provisions and specifications.

Manhole Adjustment.

Manhole adjustment shall consist of removing existing manhole frames and lids, removing all brick/precast adjusting rings, and all other materials, furnishing and installing new adjusting rings as required, furnishing and installing new frames and lids, and furnishing and installing exterior manhole adjustment seals.

This work shall include adjusting manhole frames to finish grade. The frame and lid shall be set 1/4 inch min. to 3/8 inch max. below final grade in pavement and at final grade in turf areas. All proposed rim elevations shall be obtained from the roadway reconstruction plan and profile plan sheets or from IDOT.

This work shall include the removal of all existing adjustment (whether brick or concrete), and replacement with new adjusting rings. The combination of new adjusting rings shall be such that the minimum number of rings possible are used.

Allowable types of adjusting rings include precast concrete and expanded polypropylene (EPP). These can be used in conjunction with each other, except that a precast concrete ring shall not be placed over an EPP ring.

For precast concrete adjusting rings:

All adjusting ring joints, as well as the joint between the frame and adjustment ring, shall be sealed watertight by means of an all-weather rubber butyl sealant designed for the purpose of sealing concrete structures water-tight. The adjusting ring surface shall be dry and free of foreign material. The surface shall be dried and heated with a weed burner when outside temperatures are less than optimum for adhesion of the sealant to the concrete.

Frames in the roadway shall be pitched to match the slope of pavement. EPP taper rings are required when frames are pitched.

For expanded polypropylene (EPP) adjusting rings:

The use of EPP adjustment rings shall be according to Sections 602 and 1043 of the IDOT Standard Specifications, and Supplemental Specifications & Recurring Special Provisions, most recent edition. The EPP adjustment rings shall be installed according to the manufacturer's instructions. If the top surface of the manhole is not level, even, or is irregular, a non-shrink grout shall be placed to create a level surface and the first EPP ring shall be bedded and leveled in the non-shrink grout. The joints between the manhole, all adjustment rings, and the frame shall be sealed with the manufacturer's recommended/specified adhesive. The top ring shall be a 'finish ring' when pitching the frame is not necessary.

Frames in the roadway shall be pitched to match the slope of pavement. The top ring shall be a tapered 'adjustment' ring when pitching the frame is required. Shimming is not an acceptable method of pitching when using EPP rings. The upper most ring shall have grooves on the lower surface and a flat upper surface.

External adjustment seals are required, regardless of the type of adjustment rings used. Heat shrinkable adjustment seals shall not be used with EPP rings.

The maximum height of adjustment shall be 12 inches. The distance between the top of the frame to the first manhole step shall be no more than 30 inches. A maximum of one (1) 2 inch adjusting ring will be allowed.

The Contractor shall install an FRSA approved exterior adjustment seal on all manholes as shown on the FRSA Standard Detail sheet.

Materials.

1. Adjusting rings:
 - a. Precast concrete adjusting rings shall be standard reinforced concrete pipe pattern and shall conform to ASTM C478 and ASTM C139. There shall be no spalled edges or cracks. Precast concrete adjusting rings shall be size 4 inch height or greater.
 - b. Expanded polypropylene (EPP) rings shall be in accordance with Section 1043 of the IDOT Standard Specifications.
2. Adjusting ring sealant:
 - a. Precast concrete adjusting ring sealant shall be a flexible rubber butyl pre-formed sealant designed for the purpose of making concrete structure joints water-tight. Material shall conform to ASTM C990.
 - b. EPP ring sealant used for watertight installation of the EPP rings shall meet ASTM C 920, Type S, Grade NS, Class 25, Uses NT, T, M, G, A, and O.
3. Manhole exterior adjustment seals (chimney seals) shall be of a rubber compound in accordance with ASTM C-923 and shall have two stainless steel compression bands also in accordance with ASTM C-923.
4. Manhole frames & lids:
 - a. Manhole frames and lids shall be per the approved frames and lids in the table below:

Approved Frames & Lids				
	Neenah Frame	Neenah Lid	East Jordan Frame	East Jordan Lid
Regular	1670-2004	R-1670-0358	00111711	00111732
Low Profile	1670-2008	R-1670-0358	---	---
Bolt Down *	1915JT08		---	---

* For manholes connected to mains 18" diameter or larger, or for manholes located in flood prone areas, frames & lids shall be the bolt down type.

5. Precast concrete barrel and cone sections shall conform to ASTM C478 and shall be free of spalling or cracks.
6. Precast concrete barrel and cone joint sealant shall be a flexible rubber butyl pre-formed sealant designed for the purpose of making concrete structure joints water-tight. Material shall conform to ASTM C990.
7. Precast concrete barrel and cone external joint seals shall be a single, full circumference compression band in accordance with ASTM c-877 (Type II); MarMac MacWrap or approved equal.
8. Manhole steps shall be 10 inches long & 12 inches wide in accordance with ASTM C-478; Neenah R-1982-F, M.A. Industries PS-1, or approved equal.

Manhole adjustment insert riser rings are not approved for use.

Required Submittals.

1. Manhole adjustment ring material specifications.
2. Manhole adjustment ring sealant material specifications.
3. Manhole exterior adjustment seal (chimney seal) material specifications.
4. Manhole frame and lid material specifications.
5. Precast concrete barrel and cone section specifications.
6. Manhole barrel and cone joint sealant material specifications.
7. Manhole barrel and cone external joint seal material specifications.
8. Manhole step material specifications.

Method of Measurement. This work will be measured in place per each for SANITARY MANHOLES TO BE RECONSTRUCTED WITH NEW TYPE 1 FRAME, CLOSED LID.

Basis of Payment. This work shall be paid for at the contract unit price each for SANITARY MANHOLES TO BE RECONSTRUCTED WITH NEW TYPE 1 FRAME, CLOSED LID.

CONCRETE MEDIAN (SPECIAL)

Description. This work shall consist of constructing small or intermediate islands as shown in District Standard 4.1. This work shall conform to the applicable portions of Sections 424 and 606 of the Standard Specifications.

Method of Measurement. CONCRETE MEDIAN (SPECIAL) will be measured in square foot from the edge of back of curb to edge of back of curb.

Basis of Payment. This work will be paid for at the contract unit price per square foot for CONCRETE MEDIAN (SPECIAL), which price shall include concrete median surface or solid concrete median.

Detectable warnings will be paid for according to Section 424 of the Standard Specifications.

LINEAR DELINEATOR PANELS, 6 INCH

Linear delineation panels shall be placed 6 inches down from the top of the concrete barrier wall or parapet wall as shown in the contract Plans. These panels shall be white or yellow, matching the color of the adjacent pavement marking edge line. Panels shall be spaced at a maximum spacing of 50 feet horizontally, with the first and last panel located within 20 feet of the end of the barrier or parapet. A minimum of 3 panels will be required along each wall.

Each panel shall be attached/adhered to the wall as per the manufacturer's written instructions, specifications, and/or recommendations.

When attaching linear delineation panels to concrete, the panels shall be secured using an anchor bolt method approved by the Engineer that will anchor the entire panel securely, but also facilitate removal of the panel if damaged or weathered in the future. The Contractor shall sufficiently cover the backside of each panel, to the satisfaction of the Engineer, with an adhesive caulking system

to aid in the permanent adhesion and alignment of the panel prior to drilling through the pre-drilled linear delineation system holes.

Each panel shall not be less than 36 inches in length and 6 inches in width. The panels shall be constructed of cube-corner retroreflective material in standard highway colors permanently bonded to an aluminum substrate. The lateral edges of each panel shall be hemmed. The panel assembly shall have a repeating raised lateral ridge every 2.25 inches. Each ridge shall be 0.34 inches high with a 45° profile and a 0.28-inch radius top. Each panel shall be attached/adhered to the wall or guardrail as per the manufacturer's written instructions, specifications and/or recommendations except connections that require drilling and anchoring into the concrete barrier shall not be allowed. Cleaning of the protective coat (boiled linseed oil) on the surfaces of the concrete barrier shall be required per the adhesive manufacturer's written instructions. The cleaned surfaces shall receive a primer that is specifically recommended by the adhesive manufacturer. The panel product data sheets, material certifications, test results, and construction type and details shall be submitted to the Engineer for approval a minimum of 30 days prior to proposed use.

Daytime color requirements shall be determined from measurement of the retroreflective sheeting applied to aluminum test panels. Daytime color shall be measured instrumentally using a spectrophotometer employing annular 45/0 (or equivalent 0/45) illuminating and viewing geometry measurements shall be made in accordance with ASTM E1164 for ordinary colors or ASTM E2153 for fluorescent colors. Chromaticity coordinates shall be calculated for CIE Illuminant D65 and the CIE 1931 (2o) Standard Colorimetric Observer in accordance with ASTM E308 for ordinary colors or ASTM E2152 for fluorescent colors.

Chromaticity Limits for White

	x	y	x	y	x	y	x	y	Limit Y (%)	
									Min	Max
White	0.303	0.287	0.368	0.353	0.340	0.380	0.274	0.316	40	-

Chromaticity Limits for Fluorescent Yellow

	x	y	x	y	x	y	x	y	Total Luminance Factor Y (%)
									Min
Fluor. Yellow	0.498	0.412	0.557	0.442	0.479	0.520	0.438	0.572	24

The manufacturer shall provide a certification letter that states the materials supplied to this Contract Number project meets the physical properties of this special provision and shall attach test results that demonstrate compliance. The manufacturer shall certify by letter that the adhesive and all recommended concrete surface preparation materials and instructions used to adhere the panels to the concrete and guardrail surfaces are specifically recommended for typical Illinois outdoor weather and highway related exposures.

The Resident Engineer will sample one panel at random per unique lot of component materials for acceptance testing by Illinois Department of Transportation.

This work shall be paid for at the contract unit price per each for LINEAR DELINEATOR PANELS, 6 INCH.

REMOVE IMPACT ATTENUATORS, NO SALVAGE

Description. This work shall consist of removing existing impact attenuators as shown on the plans. The work shall be completed in accordance with the applicable portions of Section 440. This work shall be coordinated with the traffic control plan for this project.

Method of Measurement. This work will be measured for payment per each.

Basis of Payment. This work will be paid for at the contract unit price per each for REMOVE IMPACT ATTENUATORS, NO SALVAGE, which price shall include removal of the impact attenuators and the satisfactory disposal of all materials.

REMOVE ATTENUATOR BASE

Description. This work shall consist of the removal and disposal of existing base pavements that are supporting and located at existing impact attenuator locations shown on the plans and as directed by the Engineer. The attenuators can consist of sand barrels or other types of attenuators. All work necessary shall be done in accordance with Section 440 of the Standard Specifications.

Method of Measurement. Each base for each attenuator will be measured per each as a separate attenuator base. A grouping of sand barrels on a base shall consist of one attenuator base. The entire base and any connections, bars or other similar material shall be removed and disposed of by the Contractor.

Basis of Payment. This work will be paid for at the contract unit price per each for REMOVE ATTENUATOR BASE, which price shall include removal of attenuator bases and the satisfactory disposal of all materials.

ENGINEER'S FIELD OFFICE, TYPE A (SPECIAL)

Revise the first paragraph of Article 670.02 to read:

670.02 Engineer's Field Office Type A (Special). Type A (Special) field offices shall have a ceiling height of not less than 7 feet and a floor space of not less than 5000 square feet with a minimum of five separate offices. The office shall also have a separate storage room capable of being locked for the storage of the nuclear measuring devices. The office shall be provided with sufficient heat, natural and artificial light, and air conditioning. Doors and windows shall be equipped with locks approved by the Engineer.

Revise the first sentence of the second paragraph of Article 670.02 to read:

An electronic security system that will respond to any breach of exterior doors and windows with an on-site alarm shall be provided.

Revise the last sentence of the third paragraph of Article 670.02 to read:

Adequate all-weather parking space shall be available to accommodate a minimum of twelve vehicles.

Revise the fifth paragraph of Article 670.02 to read:

Sanitary facilities shall include hot and cold potable running water, lavatory and toilet as an integral part of the office. Solid waste disposal consisting of ten waste baskets and an outside trash container of sufficient size to accommodate a weekly provided pick-up service. A weekly cleaning service for the office shall be provided.

Revise Article 670.02(a) through 670.02(r) to read:

- (a) Four desks with minimum working surface 42 inch x 30 inch each and four non-folding office chairs with upholstered seats, backs and will have wheels.
- (b) Nine desks with minimum working surface 72 inch x 36 inch each and nine non-folding office chairs with upholstered seats, backs and will have wheels.
- (c) Two four-post drafting tables with minimum top size of 37-½ inch x 48 inch.
- (d) Eight free standing four-drawer legal size file cabinets with lock and an underwriters' laboratories insulated file device 350 degrees one hour rating.
- (e) Twenty folding chairs and four conference tables with minimum top size of 44 inch x 96 inch.
- (f) Six 6 ft folding tables.
- (g) One refrigerator with a minimum size of 25 cu ft with separate freezer unit. The refrigerator shall be self defrosting.
- (h) Three electric desk type tape printing calculator and two pocket scientific notation calculators with a 1000 hour battery life or with a portable recharger.
- (i) A minimum of two communication paths. The configuration shall include:
 - (1) Internet Connection. An internet service connection using telephone DSL, or cable Broadband, with Business Class Support. Minimum speeds shall be 75Mbps download and 20Mbps upload. The internet service shall be provided with a Static IP address. Additionally, a wireless router shall be provided for the exclusive use of the Engineer. The router shall support wireless standards 802.11 b/g/n capable, have a minimum of four (4) gigabit ports and have VPN capability. The Engineer shall approve the service and equipment prior to installation.
 - (2) Telephones lines. Three separate telephone lines including one line for the fax machine, and two lines for the exclusive use of the Engineer. All telephone lines shall include long distance service and all labor and materials necessary to install the phone lines at the locations directed by the Engineer. The TELCOM

company shall configure ROLL/HUNT features as specified by the engineer.
The phone lines shall have unpublished numbers.

- (j) Two plain paper color laser copiers with automatic feed and sorter/stapler (including maintenance agreement, software and all operating supplies). The units shall be capable of copying field books, 8-1/2" x 11", 8-1/2" x 14" and 11" x 17" size paper. The copiers shall have the capability to be networked and be able to copy, print and scan color prints up to 11"x17". The machines shall also be capable of a minimum of 30 ppm and have multiple 500 sheet storage trays and include one high capacity storage tray of 2000 sheets minimum. The machines shall be equipped to handle a minimum of 3 separate paper paths.

The Engineer shall approve the equipment prior to installation.

- (k) One plain paper fax machine including maintenance and supplies.
- (l) Six two-line telephones, with touch tone, and two digital answering machines, for exclusive use by the Engineer.
- (m) One electric water cooler dispenser including water service.
- (n) Three 4 foot x 6 foot dry erase boards.
- (o) One 4 foot x 6 foot framed cork board.
- (p) One first-aid cabinet fully equipped.
- (q) Two electric paper shredders.
- (r) One microwave oven (minimum 1000 watt) with a turntable and 1 cu ft minimum capacity

Add the following to Article 670.07 Basis of Payment.

The building or buildings, fully equipped, will be paid for at the contract unit price per calendar month or fraction thereof for ENGINEER'S FIELD OFFICE, TYPE A (SPECIAL).

TEMPORARY CONCRETE BARRIER (TO REMAIN PERMANENTLY)

Description. This work shall consist of furnishing, installing, and maintaining temporary concrete barriers at locations specified in the Plans. This work shall be completed in accordance with the applicable portions of Section 704 of the Standard Specifications.

General Requirements. The temporary concrete barrier shall not be removed at the end of the Contract. After the Contract is closed, the Contractor shall leave the existing temporary concrete barrier in place and ownership and maintenance of the temporary concrete barrier shall be transferred over to the Department.

Method of Measurement. TEMPORARY CONCRETE BARRIER (TO REMAIN PERMANENTLY) shall be measured for payment per each in accordance with Article 704.05 of the Standard Specifications.

Basis of Payment. This work shall be paid for at the contract unit price per foot for TEMPORARY CONCRETE BARRIER (TO REMAIN PERMANENTLY), which price shall include all labor, equipment, and materials necessary to furnish, place and maintain the temporary concrete barrier until transferred.

IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE)

Description. This work shall consist of furnishing, installing, and maintaining impact attenuators at locations specified in the Plans. This work shall be completed in accordance with the applicable portions of Section 643 of the Standard Specifications.

General Requirements. The impact attenuator shall not be removed at the end of the Contract. After the Contract is closed, the Contractor shall leave the existing impact attenuator in place and ownership and maintenance of the impact attenuator shall be transferred over to the Department.

Method of Measurement. IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE) TEST LEVEL 3 (TO REMAIN PERMANENTLY) shall be measured for payment per each in accordance with Article 643.05 of the Standard Specifications.

Basis of Payment. This work shall be paid for at the contract unit price per each for IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE) TEST LEVEL 3 (TO REMAIN PERMANENTLY), which price shall include all labor, equipment, and materials necessary to furnish, place and maintain the impact attenuator until transferred.

IMPACT ATTENUATORS, TEMPORARY (FULLY REDIRECTIVE, RESETTABLE)

Description. This work shall consist of furnishing, installing, and maintaining impact attenuators at locations specified in the Plans. This work shall be completed in accordance with the applicable portions of Section 643 of the Standard Specifications.

General Requirements. The impact attenuator shall not be removed at the end of the Contract. After the Contract is closed, the Contractor shall leave the existing impact attenuator in place and ownership and maintenance of the impact attenuator shall be transferred over to the Department.

Method of Measurement. IMPACT ATTENUATORS, TEMPORARY (FULLY REDIRECTIVE, RESETTABLE) TEST LEVEL 3 (TO REMAIN PERMANENTLY) shall be measured for payment per each in accordance with Article 643.05 of the Standard Specifications.

Basis of Payment. This work shall be paid for at the contract unit price per each for IMPACT ATTENUATORS, TEMPORARY (FULLY REDIRECTIVE, RESETTABLE) TEST LEVEL 3 (TO REMAIN PERMANENTLY), which price shall include all labor, equipment, and materials necessary to furnish, place and maintain the impact attenuator until transferred.

IMPACT ATTENUATORS, TEMPORARY (FULLY REDIRECTIVE, NARROW)

Description. This work shall consist of furnishing, installing, and maintaining impact attenuators at locations specified in the Plans. This work shall be completed in accordance with the applicable portions of Section 643 of the Standard Specifications.

General Requirements. The impact attenuator shall not be removed at the end of the Contract. After the Contract is closed, the Contractor shall leave the existing impact attenuator in place and ownership and maintenance of the impact attenuator shall be transferred over to the Department.

Method of Measurement. IMPACT ATTENUATORS, TEMPORARY (FULLY REDIRECTIVE, NARROW) TEST LEVEL 3 (TO REMAIN PERMANENTLY) shall be measured for payment per each in accordance with Article 643.05 of the Standard Specifications.

Basis of Payment. This work shall be paid for at the contract unit price per each for IMPACT ATTENUATORS, TEMPORARY (FULLY REDIRECTIVE, NARROW) TEST LEVEL 3 (TO REMAIN PERMANENTLY), which price shall include all labor, equipment, and materials necessary to furnish, place and maintain the impact attenuator until transferred.

TEMPORARY SIGN PANEL OVERLAY

Description. This work shall consist of furnishing, fabricating, and installing temporary sign panel overlays by attaching them onto a sign as noted on the plans or as directed by the Engineer; and removal of the overlay upon conclusion of the construction project.

This work shall also include maintaining the sign installation through the duration of the contract.

Sign Panels. The reflective sheeting shall be mounted on sheet aluminum, 2 mm. (0.08 in.) thick, meeting Article 1090.02 of the Standard Specifications.

Sign Face. The sign face material shall be in accordance with Article 1091 of the Standard Specifications.

Installation. The installation of the temporary sign panel overlay shall be in accordance with Article 721.06 of the Standard Specifications except that the existing sign shall not be stripped of its existing legend prior to attachment of the temporary sign panel overlay.

After the removal of the sign panel overlays, all exposed rivet holes in the remaining sign area must be covered with matching colored reflective tape in accordance with Article 1091.03 of the Standard Specifications. Any other damage incurred during the removal of the overlay panels will be repaired to the satisfaction of the Engineer.

Method of Measurement. Temporary sign panel overlay will be measured for payment in square feet. The area used for measurement shall be the actual area of the temporary sign panel overlay.

Removal of the temporary sign panel overlay shall be included in the cost of the TEMPORARY SIGN PANEL OVERLAY.

Basis of Payment. This work will be paid for at the contract unit price per square foot for TEMPORARY SIGN PANEL OVERLAY.

REMOVE AND REINSTALL SIGN PANEL

Description. This work shall consist of removal and storage of existing sign panels, posts, hardware and appurtenances and reinstallation of each at the completion of construction. This work shall be performed in accordance with the applicable Articles of Section 723 of the Standard Specifications, and as described herein.

General Requirements. The Contractor shall remove and store each sign panel, posts, mounting hardware and all other appurtenances and reinstall each upon completion of the project. Care shall be taken to preserve the condition of the sign, post, hardware and appurtenances. Damaged signs, posts shall be replaced by the Contractor at their expense. The signs will be reinstalled at the locations shown in the plans and as directed by the Engineer.

Method of Measurement. REMOVE AND REINSTALL SIGN PANEL will be measured for payment in square foot.

Basis of Payment. This work will be paid at the contract unit price per square foot for REMOVE AND REINSTALL SIGN PANEL, which includes all equipment and labor required to remove, store and reinstall sign panels.

SIGN PANEL OVERLAY (SPECIAL)

Description. This work consists of furnishing and installing sign panel overlays in accordance with Section 721 of the Standard Specifications and as specified herein.

The existing sign does not need to be removed nor have the sign legend stripped off or completely removed. The sign panel overlays can be placed directly over the top of the existing sign and riveted in place as described in Section 721.

Method of Measurement. SIGN PANEL OVERLAY (SPECIAL) will be measured for payment in square foot.

Basis of Payment. This work will be paid for at the contract unit price per square foot for SIGN PANEL OVERLAY (SPECIAL) and will only be measured once per sign overlay as specified in the plans.

REMOVAL OF TOWER FOUNDATION

Description. This work shall consist of the removal and disposal of existing high mast light tower foundations.

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

Removal of Tower Foundation. Concrete foundations shall be removed to at least 2 ft below grade, with removed material disposed of according to Article 202.03 of the Standard Specifications. The removal shall extend deeper where required to facilitate roadway construction at no additional cost to the Department. Underground conduits and cables shall be separated from the foundation at 2.5 ft below grade and shall be abandoned or re-used as indicated.

The void caused by the removal of the foundations shall be backfilled according to Article 841.02 of the Standard Specifications.

Method of Measurement. Each foundation which is removed or disposed of as indicated, will be counted as a per each for payment.

Basis of Payment. This work will be paid for at the contract unit price per each for REMOVAL OF TOWER FOUNDATION, which shall be payment in full for all work as specified herein, including backfilling of void.

MAINTENANCE OF EXISTING FIBER OPTIC CABLE (FOC) NETWORK

Effective the date the Contractor's activities (electrical or otherwise) at the job site begin, the Contractor shall be responsible for the proper operation and maintenance of the fiber optic cable network through until final acceptance or as otherwise determined by the Engineer.

Before performing any excavation, removal, or installation work (electrical or otherwise) at the site, the Contractor shall initiate a request for a maintenance transfer and preconstruction inspection, as specified elsewhere herein, to be held in the presence of the Engineer and a representative of the party or parties responsible for maintenance of the IDOT District 2 fiber optic network which may be affected by the work. During the maintenance preconstruction inspection, the party responsible for existing maintenance shall perform testing of the existing system in accordance with Article 801.13d. The Contractor shall request a date for the preconstruction inspection no less than fourteen (14) days prior to the desired date of the inspection.

The Engineer will document all test results and note deficiencies. All substandard equipment will be repaired or replaced by the existing maintenance contractor, or the Engineer can direct the Contractor to make the necessary repairs under Article 109.04.

Existing fiber optic networks, when depicted on the plans, are intended only to indicate the general equipment installation of the systems involved and shall not be construed as an exact representation of the field conditions. It remains the Contractor's responsibility to visit the site to

confirm and ascertain the exact condition of the electrical equipment and systems to be maintained. Contract documents shall indicate the circuit limits.

Maintenance of Existing Fiber Optic Networks

This Special Provision includes the following maintenance services/activities to be rendered by the Contractor to ensure the continuous operation of the FOC Network within the limits of the project and other remote locations where construction activities are in support of the project.

1. Prior approval for all repair/restoration or replacement work on the government FOC network is required before work shall commence. Coordinate with the Engineer for inspection and approval of all repairs prior to placing the network back online.
2. All materials necessary for repair/restoration and replacement of any portion of the network within the project limits shall be approved by the Engineer prior to installation and shall be inspected & approved upon completion of the work.
3. All work shall comply with current laws, regulations, rules, etc. controlling said work.
4. Cleaning and dewatering of manholes directly impacted from construction activities (If applicable).
5. Qualified manpower, tools, equipment, vehicles, facilities, and materials are available within 4 hours of notification for immediate response in case of network failure.
6. Refer to the Maintenance, repair/restoration, and replacement responsibilities in Division 800 of the current "Standard Specifications for Road and Bridge Construction" for additional information.

Extent of Maintenance.

Fiber Optic Cable network (FOCN) outages that may require repair/restoration and/or replacement include some (not limited to this list) of the following:

1. Site survey, locating services, and damage assessment.
2. Installation & Splicing of Distribution Points (setting –up, installation of bridle ring, DP, closing splice, & installation of cable tie).
3. FOC cabling or releasing of Cable (unlashing of cable, installation of lashing wire, cable lashing clamp, tie-cable support and accessories).
4. Repair/restoration, or replacement of fiber optic cable, hardware, and ancillary equipment (aerial/underground) located within the construction limits damaged from construction activities.
5. Replacement of damaged FOC runs.
6. Splicing of FOC.
7. Repair/restoration and replacement of existing materials, connections, or hardware, etc. damaged from construction activities.
8. FOC Testing Activity (OTDR, Power Rating, VSL, FOC inventory, Results Documentation) and other activities necessary for the complete restoration and operation of the FOC when damage is located within the project limits or resulting from construction activity. Coordinate with the Engineer regarding any necessary testing requirements.
9. Refer to the Maintenance, repair/restoration, and replacement responsibilities in Division 800 of the current "Standard Specifications for Road and Bridge Construction" for additional information.

Response and Report Time Target.

The Contractor shall consider all interruptions in service as urgent priority. Expected response and restoration time are given in the table below:

INCIDENT OR PROBLEM	SERVICE RESPONSE TIME	SERVICE RESTORATION TIME
Reported Outage	4 hours	12 hours

- **Service Response Time** -- amount of time from the initial notification to the Contractor until a patrolman physically arrives at the location.
- **Service Restoration Time** – amount of time from the initial notification to the Contractor until the time the system is fully operational again.

Failure to provide this service will result in liquidated damages of \$1,500 per day per occurrence. In addition, the Department reserves the right to assign any work not completed within this timeframe to the Electrical Maintenance Contractor. All costs associated to repair this uncompleted work shall be the responsibility of the Contractor. Failure to pay these costs to the State’s Maintenance Contractor within one month after the incident will result in additional liquidated damages of \$500 per month per occurrence. Unpaid bills will be deducted from any monies owed to the Contractor. Repeated failures and/or a gross failure of maintenance shall result in the State’s Maintenance Contractor being directed to correct all deficiencies and the resulting costs deducted from any monies owed the contractor.

Damage caused by the Contractor’s operations shall be repaired at no additional cost to the Contract.

Manpower Work Requirements. The Contractor shall supply the needed manpower capable of delivering the needed services on a moment’s notice. Manpower should be technically trained not only in fiber optic technology but also knowledgeable in networking, communicate effectively, and capable of troubleshooting and repair work.

Any untoward incidents and/or accidents that may happen to contractor’s manpower or any third party shall be the sole responsibilities of the contractor.

Method of Measurement. The Contractor shall demonstrate to the satisfaction of the Engineer that the fiber optic network is fully operational prior to submitting a pay request. Failure to do so will be grounds for denying the pay request. Months in which the fiber optic networks are not maintained and not operational will not be paid. Payment shall not be made retroactively for months in which fiber optic networks were not operational.

Basis of Payment. Maintenance of fiber optic cable networks shall be paid for at the contract unit price per calendar month for MAINTENANCE OF EXISTING FIBER OPTIC CABLE (FOC) NETWORK.

FIBER OPTIC SPLICE - MAINLINE

Description. The Contractor will splice optical fibers from different cable sheaths and protect them with a splice closure at the locations shown on the Plans. Fiber splicing consists of in-line fusion splices for all fibers described in the cable Plan at the particular location.

Two splices are identified. A mainline splice includes all fibers in the cable sheath. In a lateral splice, the buffer tubes in the mainline cable are dressed out and those fibers identified on the Plans are accessed in and spliced to lateral cables.

Materials.

Splice Closures. Splice Closures shall be designed for use under the most severe conditions such as moisture, vibration, impact, cable stress and flex temperature extremes as demonstrated by successfully passing the factory test procedures and minimum specifications listed below:

Physical Requirements. The closures shall provide ingress for up to four cables in a butt configuration. The closure shall prevent the intrusion of water without the use of encapsulates.

The closure shall be capable of accommodating splice organizer trays that accept mechanical, or fusion splices. The splice closure shall have provisions for storing fiber splices in an orderly manner, mountings for splice organizer assemblies, and space for excess or un-spliced fiber. Splice organizers shall be re-enterable. The splice case shall be UL rated.

Closure re-entry and subsequent reassembly shall not require specialized tools or equipment. Further, these operations shall not require the use of additional parts.

The splice closure shall have provisions for controlling the bend radius of individual fibers to a minimum of 38 mm (1.5 in.).

Factory Testing.

Compression Test. The closure shall not deform more than 10% in its largest cross-sectional dimension when subjected to a uniformly distributed load of 1335 N at temperatures of –18 and 38 degrees Celsius (0 and 100 degrees Fahrenheit). The test shall be performed after stabilizing at the required temperature for a minimum of two hours. It shall consist of placing an assembled closure between two flat parallel surfaces, with the longest closure dimension parallel to the surfaces. The weight shall be placed on the upper surface for a minimum of 15 minutes. The measurement shall then be taken with weight in place.

Impact Test. The assembled closure shall be capable of withstanding an impact of 28 N-M at temperatures of –18 and 38 degrees Celsius (0 and 100 degrees Fahrenheit). The test shall be performed after stabilizing the closure at the required temperature for a minimum of 2 hours. The test fixture shall consist of 9 kg (20 lb) cylindrical steel impacting head with a 50 mm (2 in.) spherical radius at the point where it contacts the closure. It shall be dropped from a height of 305 mm (12 in.). The closure shall not exhibit any cracks or fractures to the housing that would preclude it from passing the water immersion test. There shall be no permanent deformation to the original diameter or characteristic vertical dimension by more than 5%.

Cable Gripping and Sealing Testing. The cable gripping and sealing hardware shall not cause an increase in fiber attenuation in excess of 0.05 dB/fiber @ 1550 nm when attached to the cables and the closure assembly. The test shall consist of measurements from six fibers, one from each buffer tube or channel, or randomly selected in the case of a single fiber bundle. The measurements shall be taken from the test fibers before and after assembly to determine the effects of the cable gripping and sealing hardware on the optical transmission of the fibers.

Vibration Test. The splice organizers shall securely hold the fiber splices and store the excess fiber. The fiber splice organizers and splice retaining hardware shall be tested per EIA Standard FOTP-II, Test Condition 1. The individual fibers shall not show an increase in attenuation in excess of 0.1 dB/fiber.

Water Immersion Test. The closure shall be capable of preventing a 3 m (10 ft) water head from intruding into the splice compartment for a period of 7 days. Testing of the splice closure is to be accomplished by the placing of the closure into a pressure vessel and filling the vessel with tap water to cover the closure. Apply continuous pressure to the vessel to maintain a hydrostatic head equivalent 3 m (10 ft) on the closure and cable. This process shall be continued for 30 days. Remove the closure and open to check for the presence of water. Any intrusion of water in the compartment containing the splices constitutes a failure.

Certification. It is the responsibility of the Contractor to insure that either the manufacturer, or an independent testing laboratory has performed all of the above tests, and the appropriate documentation has been submitted to the Department. Manufacturer certification is required for the model(s) of closure supplied. It is not necessary to subject each supplied closure to the actual tests described herein.

CONSTRUCTION REQUIREMENTS

The closure shall be installed according to the manufacturer's recommended guidelines. For mainline splices, the cables shall be fusion spliced. 45 days prior to start of the fiber optic cabling installation, the Contractor shall submit the proposed locations of the mainline splice points for review by the Department.

The Contractor shall prepare the cables and fibers in accordance with the closure and cable manufacturers' installation practices. A copy of these practices shall be provided to the Engineer 21 days prior to splicing operations.

Using a fusion splicer, the Contractor shall optimize the alignment of the fibers and fuse them together. The Contractor shall recoat the fused fibers and install mechanical protection over them.

Upon completing all splicing operations for a cable span, the Contractor shall measure the mean bi-directional loss at each splice using an Optical Time Domain Reflectometer. This loss shall not exceed 0.1 dB.

The Contractor shall measure the end-to-end attenuation of each fiber, from connector to connector, using an optical power meter and source. This loss shall be measured at from both directions and shall not exceed 0.5 dB per installed kilometer of single mode cable. Measurements shall be made at both 1300 and 1550 nm for single mode cable. For multimode

cable, power meter measurements shall be made at 850 and 1300 nm. The end-to-end attenuation shall not exceed 3.8 dB/installed kilometers at 850nm or 1.8 dB per installed kilometer at 1300nm for multimode fibers.

As directed by the Engineer, the Contractor at no additional cost to the Department shall replace any cable splice not satisfying the required objectives.

The Contractor shall secure the Splice Closure to the side of the splice facility using cable support brackets. All cables shall be properly dressed and secured to rails or racks within the manhole. No cables or enclosures will be permitted to lie on the floor of the splice facility. Cables that are spliced inside a building will be secured to the equipment racks or walls as appropriate and indicated on the Plans.

Method of Measurement. Fiber optic splice of the type specified will be measured as each, completely installed and tested with all necessary splices completed within the enclosure, and the enclosure secured to the wall of the splice facility.

Basis of Payment. This work shall be paid at the contract unit price each for FIBER OPTIC CABLE SPLICE - MAINLINE, which shall be payment in full for the work, complete, as specified herein.

EMERGENCY VEHICLE PRIORITY SYSTEM

Description. This work shall consist of installing and testing of an emergency vehicle priority system of the type in service by the Village of Cherry Valley Fire Prevention District, in accordance with manufacturer's specifications and with Section 887 and Articles 1072 of the Standard Specifications except as described herein.

Materials. The emergency vehicle priority system shall be the Tomar Strobecom II Optical Preemption System which is the manufacturer the Village of Cherry Valley Fire Prevention District uses throughout its traffic emergency preemption network system and is required to provide compatibility throughout the entire Village.

The item shall include the following, as well as items described in Article 887.03, Section 1072 and Article 1076.01 of the Standard Specifications:

System Components:

1. Confirmation Hardware: Mobtrex A214390
 - a. includes lampholder, Dev Box, Cover, screws and hardware
2. Confirmation Beacon: Dialight Confirmation Light for Pre-Emption/Red Light Running
 - a. Part Number TB1-7401-101
3. Optical Preemption & Priority Control Systems: The light detector amplifier shall be rack mounted Tomar 4140 OSP Card with a four-channel capacity. The system shall have ID capability with the necessary software included so that events can be downloaded to a laptop computer.
4. Confirmation Beacon Cable: IMSA Spec 19-1, Part No. 8002 2/C 14 AWG
5. Emergency Vehicle Priority System Line Sensor Cable, Advanced Digital Cable, Inc., No. 20 3/C, Part No. 32003HSD

- a. This item shall consist of furnishing and installing lead-in cable for light detectors installed at existing and/or proposed traffic signal installations as part of an emergency vehicle priority system. The work includes installation of the lead-in cables in existing and/or new conduit. The electric cable shall be shielded and have (3) stranded conductors, colored blue, orange, and yellow with a stranded tinned copper drain wire. The cable shall meet the requirements of the vendor of the Emergency Vehicle Priority System Equipment.

Testing. Upon installation, the Contractor shall contact the Cherry Valley Fire Prevention District to verify that the system is operating properly, including testing with their existing vehicle mounted equipment.

Method of Measurement. Measurement for this work will be per each.

Basis of Payment. This work will be paid for at the contract unit price per each for EMERGENCY VEHICLE PRIORITY SYSTEM.

TEMPORARY TRAFFIC SIGNAL INSTALLATION (SPECIAL)

Description. This work shall consist of installing and maintaining a temporary traffic signal installation. The contractor shall be responsible for contacting the District 2 Traffic Signal Engineer to verify change of ownership of the Temporary Traffic Signal. This work shall be performed in accordance with Section 890 of the Standard Specifications, the details in the plans, or as directed by the Engineer.

Revise Section 890.00 of the Standard Specifications to read:

Only an approved equipment vendor will be allowed to assemble the temporary traffic signal cabinet. A representative of the approved control equipment vendor shall be present at the temporary traffic signal turn-on inspection.

Only controllers supplied by one of the District approved closed loop equipment manufacturers will be approved for use at temporary signal locations. All controllers used for temporary traffic signals shall be fully actuated NEMA microprocessor based with RS232 data entry ports compatible with existing monitoring software approved by IDOT District 2, installed in NEMA TS1 or TS2 cabinets with 8 phase back panels, capable of supplying 255 seconds of cycle length and individual phase length settings up to 99 seconds. On projects with one lane open and two-way traffic flow, such as bridge deck repairs, the temporary signal controller shall be capable of providing an adjustable all red clearance setting of up to 30 seconds in length. All controllers used for temporary traffic signals shall meet or exceed the requirements of Section 857 of the Standard Specifications with regards to internal time base coordination and preemption.

All temporary traffic signal cabinets shall have a closed bottom made of aluminum alloy. The bottom shall be sealed along the entire perimeter of the cabinet base to ensure a water, dust and insect-proof seal. The bottom shall provide a minimum of two (2) 100 mm (4 inch) diameter holes to run the electric cables through. The 100 mm (4 inch) diameter holes shall have a bushing installed to protect the electric cables and shall be sealed after the electric cables are installed.

Grounding shall be provided for the temporary traffic signal cabinet meeting or exceeding the applicable portions of the National Electrical Code and Section 807 of the Standard Specifications.

All traffic signal sections shall be 300 mm (12 inches). The temporary traffic signal heads shall be placed as indicated on the temporary traffic signal plan or as directed by the Engineer. The Contractor shall furnish enough cable slack to relocate heads to any position on the span wire or at locations illustrated on the plans for construction staging. The temporary traffic signal shall remain in operation during all signal head relocations. Each temporary traffic signal head shall have its own cable from the controller cabinet to the signal head.

All emergency vehicle preemption equipment (light detectors, light detector amplifiers, confirmation beacons, etc.) as shown on the temporary traffic signal plans shall be provided by the Contractor. It shall be the Contractor's responsibility to contact the municipality or fire district to verify the brand of emergency vehicle preemption equipment to be installed prior to the contract bidding.

The equipment must be completely compatible with all components of the equipment currently in use by the Agency. All light operated systems shall operate at a uniform rate of 14.035 hz \pm 0.002, or as otherwise required by the Engineer, and provide compatible operation with other light systems currently being operated in the District. All labor and material required to install and maintain the Emergency Vehicle Preemption installation shall be incidental to the item Temporary Traffic Signal Installation.

All temporary traffic signal installations shall have vehicular detection installed as shown on the plans or as directed by the Engineer. Pedestrian push buttons shall be provided for all pedestrian signal heads/phases as shown on the plans or as directed by the Engineer. Minor cross streets shall have vehicular detection provided by Microwave Vehicle Sensors or Video Vehicle Detection System as shown on the plans or as directed by the Engineer. The microwave vehicle sensor or video vehicle detection system shall be approved by IDOT before furnishing and installing. The Contractor shall install, wire, and adjust the alignment of the microwave vehicle sensor or video vehicle detection system in accordance to the manufacturer's recommendations and requirements. The Contractor shall be responsible for adjusting the alignment of the microwave vehicle sensor or video vehicle detection system for all construction staging changes and for maintaining proper alignment throughout the project. A representative of the approved control equipment vendor shall be present and assist the contractor in setting up and maintaining the microwave vehicle sensor or video vehicle detection system.

All existing street name and intersection regulatory signs shall be removed from existing poles and relocated to the temporary signal span wire. If new mast arm assembly and pole(s) and posts are specified for the permanent signals, the signs shall be relocated to the new equipment at no extra cost.

The energy charges for the operation of the traffic signal installation shall be paid for by others if the installation replaces an existing signal. Otherwise charges shall be paid for under 109.05 of the Standard Specifications.

All control equipment for the temporary traffic signal(s) shall be furnished by the Contractor unless otherwise stated in the plans. On projects with multiple temporary traffic signal installations, all controllers shall be the same manufacturer brand and model number with current software installed.

Maintenance shall meet the requirements of the Traffic Specifications and District Specifications for "Maintenance of Existing Traffic Signal Installation." Maintenance of temporary signals and of

the existing signals shall be incidental to the cost of this item. When temporary traffic signals are to be installed at locations where existing signals are presently operating, the Contractor shall be fully responsible for the maintenance of the existing signal installation as soon as he begins any physical work on the Contract or any portion thereof. Maintenance responsibility of the existing signals shall be incidental to the item Temporary Traffic Signal Installation(s). In addition, a minimum of seven (7) days prior to assuming maintenance of the existing traffic signal installation(s) under this Contract, the Contractor shall request that the Resident Engineer contact the Bureau of Traffic for an inspection of the installation(s).

Prior to substantial completion, the Contractor shall initiate a request for a maintenance transfer and inspection, as specified elsewhere herein, to be held in the presence of the Engineer and a representative of the party or parties who will be responsible for maintenance of the existing temporary traffic signal to remain. During the maintenance inspection, the party responsible for existing maintenance shall perform testing of the existing system in accordance with Article 801.13b. The Contractor shall request a date for the inspection no less than fourteen (14) days prior to the desired date of the inspection.

The Engineer will document all test results and note deficiencies. All substandard equipment will be repaired or replaced by the Contractor prior to turn over to the State's maintenance.

Method of Measurement. This work will be measured for payment per each.

Basis of Payment. This work shall be paid for at the contract unit price per each for TEMPORARY TRAFFIC SIGNAL INSTALLATION (SPECIAL). The price of which shall include all costs for the modifications required for traffic staging, changes in signal phasing as required in the Contract plans, microwave vehicle sensors, video vehicle detection system, any maintenance or adjustment to the microwave vehicle sensors/video vehicle detection system, all material required, the installation and change of ownership to District 2 of the temporary traffic signal.

REMOVE FIBER OPTIC CABLE FROM CONDUIT

Description. This work shall consist of removing a portion of the existing fiber optic interconnect cable from conduit as shown on the plans.

Construction. The existing fiber optic cable shall be disconnected from the communications end equipment and fiber enclosures, and removed from the existing conduits. Removal of the fiber optic cable shall prevent damage to end equipment from the cable being tugged. The existing fiber optic cable shall not be disconnected and removed until the temporary equipment and communications are installed in advance and operating to the satisfaction of the Engineer. Cables shall be taken off-site for proper disposal.

Method of Measurement. Removal of all cables installed in an existing conduit will be measured for payment in feet. Multiple cables in conduit shall not be paid to be removed separately. The length of measurement shall be the horizontal distance measured between points of connection and shall not include vertical lengths and slack.

Basis of Payment. This work will be paid for at the contract unit price per foot for REMOVE FIBER OPTIC CABLE FROM CONDUIT which price shall be payment in full for disconnecting the existing fiber optic cable from the end locations and removing the existing fiber optic cable from the existing conduits.

ILLINOIS TOLLWAY MATERIAL SPECIFICATION APPENDIX

ILLINOIS STATE TOLL HIGHWAY AUTHORITY SUPPLEMENTAL SPECIFICATIONS

SECTION 1065. PROTECTIVE DEVICES

Issued April 1, 2016
Revised February 1, 2022

This Supplemental Specification amends and supersedes the provisions of the Illinois Department of Transportation Standard Specifications for Road and Bridge Construction, adopted January 1, 2022 and shall be construed to be a part thereof, superseding any conflicting provisions thereof applicable to the work under the contract.

Add the following to Article 1065.01(b):

The fuses shall be 500 Volt rated, 5 Ampere, Type FNQ time-delay fuses, as manufactured by Bussman or approved equal.

Replace Article 1065.02 with the following:

1065.02 LIGHTNING PROTECTION.

- (a) The surge protector shall be labeled Type 2 in accordance with UL 1449.
- (b) The surge protector shall include a thermally protected transient voltage circuit.
- (c) The surge protector shall be totally weatherproof.
- (d) The surge protector shall be rated for operation at 480 volts.
- (e) The surge protector shall provide protection for Line-Ground and Line-Line in accordance with IEEE/ANSI C62.41.2 guidelines.
- (f) The surge protector shall have a high temperature, flameproof enclosure with an 85°C maximum surface temperature rating.
- (g) The surge protector shall be rated to withstand a surge current of 20,000 amperes using industry standard 8/20 μ Sec waveform and repetitive surges of 200 amperes for a minimum of 10,000 occurrences.
- (h) The surge protector response time shall be less than 50 nanoseconds.
- (i) The surge protector current drain shall not exceed 100 microamperes.
- (j) The surge protector shall not allow holdover current or conduction to ground after the surge ends.
- (k) The surge protector shall be provided with an integral LED indicating light which shall be illuminated to indicate proper function and protection for each line.

SECTION 1066. WIRE AND CABLE

Issued April 1, 2016
Revised February 1, 2022

This Supplemental Specification amends and supersedes the provisions of the Illinois Department of Transportation Standard Specifications for Road and Bridge Construction, adopted January 1, 2022 and shall be construed to be a part thereof, superseding any conflicting provisions thereof applicable to the work under the contract.

Delete the fourth paragraph of Article 1066.02 and replace with the following paragraphs:

The color code for wire and cable used to make up 480-volt, single-phase, two-wire roadway lighting circuits shall be two (2) yellow for circuit A, two (2) orange for circuit B, and one (1) green for the ground.

Wire and cables normally unavailable from Manufacturers in colors, shall be striped by the Manufacturer. If the Manufacturer is unable to stripe the cable, the black cables shall be color code-banded with colored adhesive strips or tape where exposed in light pole bases, handholes, junction boxes, pull boxes, control panels and consoles.

Revise the second paragraph of Article 1066.05 to read:

The tape shall be six (6) inches wide have reinforced metallic detection capabilities consisting of a woven reinforced polyethylene tape with a metallic core or backing according to ASTM D 882, ASTM D 5034, ASTM D 5035, and ASTM D 2103. When placed with electrical power cables, the tape shall be red in color with black or silver lettering reading "CAUTION – ELECTRICAL LINE BURIED BELOW". When placed with communications cable of fiber optic lines, the tape shall be orange in color with black lettering reading "CAUTION – FIBER OPTIC LINE BURIED BELOW".

Replace Article 1066.09 with the following:

1066.09 WIRE AND CABLE FOR ROADWAY LIGHTING.

- (a) Wire and cable used to make up 480-volt, single phase, two wire roadway lighting circuits shall be insulated with XLP insulation over the conductor with a minimum average thickness as indicated in the table in Article 1066.03(a). Cable shall be rated 600-volt, type RHH/RHW- 2/USE-2.
- (b) Pole wire, wiring to underpass luminaires and wiring to sign luminaires shall be sized No. 10 AWG, rated 600-volt, type RHH/RHW-2/USE-2, and have copper conductors, stranded in conformance with ASTM B-8. Wire shall be insulated with XLP insulation over the conductor with a minimum average thickness as indicated in the table in Article 1066.03(a).

The color code for pole wire and wiring for underpass lighting shall be two (2) yellow for Circuit A, two (2) orange for Circuit B, and green for the ground. Wiring for sign luminaires shall be pairs of yellow or orange wires tagged with a luminaire identifier.

SECTION 1067. LUMINAIRE

Issued April 1, 2016
Revised February 1, 2022

This Supplemental Specification amends and supersedes the provisions of the Illinois Department of Transportation Standard Specifications for Road and Bridge Construction, adopted January 1, 2022 and shall be construed to be a part thereof, superseding any conflicting provisions thereof applicable to the work under the contract.

Replace Article 1067.01(e) with the following:

- (e) Housing. The luminaire shall be gasketed and sealed, and UL listed for wet locations. The housing shall be fabricated from die cast aluminum or cast aluminum alloy. On aluminum alloys that darken due to atmospheric exposure the finish shall be textured and shall be protected by painting with a suitable lacquer, enamel or other paint. Luminaire finish shall maintain a scribe creepage rating of 6 per ASTM D1654 after a 1,000-hour salt spray test performed in accordance with ASTM B117. All external latches and hardware shall be made of stainless steel.

Replace Article 1067.01(g) with the following:

- (g) Photometric Performance. The Manufacturer's published photometric data for the specified American Electric Lighting, General Electric Lighting Solutions, Holophane, and Hubbell Lighting luminaires is on file with the Illinois Tollway. All luminaires supplied under the Contract shall meet or exceed the photometric performance requirements on file with the Illinois Tollway for the application and layout specified.

Replace Article 1067.01(h) with the following:

- (h) Testing. Testing of luminaires shall be required whenever the quantity of luminaires of a given type is 30 or more. For each luminaire types to be so tested, one (1) luminaire plus one (1) luminaire for each additional 50 luminaires shall be tested, i.e., no test is required if luminaire quantity is 1 to 29; test two (2) luminaires if quantity is 30-79; test three (3) luminaires if quantity is 80-129, etc. The selection of luminaires to be tested shall be a random selection from the entire completed lot of luminaires required for the contract. Selection from partial lots will not be permitted.

Testing shall be performed by the luminaire Manufacturer and shall include both photometric and electrical testing.

- (1) Photometric testing shall be performed by the luminaire Manufacturer in accordance with IES recommendations and, as a minimum, shall yield:
- a. An isofootcandle chart and table
 - b. Candlepower values at 5-degree intervals

- c. Maximum plane and maximum cone plots of candela. (NOT APPLICABLE TO SIGN LUMINAIRES)
 - d. A coefficient of utilization chart. (NOT APPLICABLE TO SIGN LUMINAIRES)
- (2) Electrical testing shall conform to NEMA and ANSI standards and, as a minimum, shall yield:
- a. A complete check of wiring connections.
 - b. A ballast dielectric test.
 - c. Total ballast losses in watts and percent of input.
 - d. A lamp volt-watt trace.
 - e. Regulation data.
 - f. A starter test.
 - g. Lamp current crest factor.
 - h. Power factor (minimum over the design range of input voltage at nominal lamp voltage.)
 - i. A table of ballast characteristics showing input amperes, watts and power factor, output volts, amperes, watts and lamp crest factor as well as ballast losses over the range of values required to produce the lamp volt-watt trace.

The test results shall be reviewed by the Manufacturer for conformance to published data. The Manufacturer shall certify that the luminaire tested conforms to the performance data that is on file with the Illinois Tollway.

Should any of the tested luminaires fail to meet the Manufacturers published data, all luminaires shall be replaced or corrected to achieve the required performance. If luminaires are replaced, the replacement luminaires shall be tested in accordance with the above requirements. In the case of corrections, the Manufacturer shall advise the Illinois Tollway of the corrections made and the corrected luminaires shall be retested in accordance with the above requirements. In no case shall the luminaires be shipped by the Manufacturer until the Illinois Tollway has received written certification from the Manufacturer that the tested luminaires are in conformance with performance data as required above.

Add the following paragraphs to Article 1067.01:

- (l) Documentation Requirements. Certified Test Reports shall be supplied as required in Article 1067.01(g) for each shipment. Certified test reports shall include the following identification information:
- (1) Manufacturer's name
 - (2) Type of luminaires
 - (3) Quantity of luminaires
 - (4) A copy of shipping ticket
 - (5) Manufacturer's lot number
- (m) Preparation for Delivery. Luminaires shall be packaged in accordance with the standard commercial practices in the industry. Each shipping container shall be clearly marked to indicate contents, the Manufacturer, date of manufacture, make, model, lamp and ballast types, electrical ratings and purchase order number, and Contract Number.
- (n) Manufacturer's Warranty. The Manufacturer shall warrant to the Illinois Tollway that the factory-installed electrical system within the luminaires (consisting of the ballast, starting aid, capacitor, socket, terminal board and wiring) shall be free from defects in material and workmanship for four (4) years from the date that the luminaires are put into service. The Manufacturer shall also warrant that all other parts of the luminaires will be free from defects in material and workmanship for two (2) years from the date that the luminaires are put into service. Manufacturer's products. Luminaires shall be installed within one year of manufacture.

Each luminaire provided shall bear the date of manufacture and shall be installed and put into operation within one year of manufacture.

If any luminaires fail to meet the above warranty terms, the Illinois Tollway shall provide the Manufacturer with a written notice adequately describing any noted defect(s) within sixty (60) days after discovery of the defect. Upon receipt of such notification, the Manufacturer shall provide a replacement luminaire.

Replace Article 1067.02(a) with the following:

- (a) Horizontal Mount.
- (1) General. Each luminaire for roadway lighting shall be a 400 Watt high pressure sodium (HPS), flat lens cut-off "cobra head" type luminaire. The luminaire shall be of the enclosed type for a horizontal burning lamp.

Each luminaire shall consist of a three-piece die cast aluminum housing, reflector, terminal strip, bottom lens, lamp socket, integral ballast, integral starting aid, breathing filter, gasket and other incidental materials to make the luminaire fully operational as specified herein.

The luminaire shall be provided with a leveling surface and shall be capable of being tilted by ± 5 degrees and rotated to any degree with respect to the supporting arm.

The luminaire shall be designed as to its size, shape and weight so that it does not aggravate the vibration characteristics of the pole or mast arm on which it is mounted and shall be compatible with the entire lighting unit. In addition, the effective projected area of the luminaire shall not exceed 1.1 square feet.

The luminaire shall slip-fit onto a 1-1/4" to 2" diameter pipe arm and shall have a barrier to limit the length of insertion. The luminaire shall be provided with a four-bolt anchoring/attachment means capable of being tightened from below with the ballast door in the open position. It shall not be necessary to remove the optical door and lens to mount the luminaire.

- (2) Ballast Assembly. The ballast assembly shall have all components mounted on the die cast ballast door. The ballast assembly shall be easily removable and replaceable. The ballast wiring and lamp socket wiring shall be connected by means of a plug. All connectors shall be removable without the use of tools. It shall not be necessary to open the optical door and lens to remove the ballast assembly.

Ballasts shall be UL listed and in compliance with NEMA and ANSI specifications. Ballasts shall be designed to operate a high-pressure sodium lamp, shall be of the same power rating as the lamp, and shall be able to start the lamp and control it continuously for ambient

temperatures ranging from -20°C to $+40^{\circ}\text{C}$. The insulation shall be Class H or better.

The ballast shall be of the magnetic regulator type with a nominal loss of 70 watts when operated at rated line voltage. Heat-generating components shall be mounted so as to use the portion of the luminaire upon which they are mounted as a heat sink. Capacitors shall be located as far as practicable from the heat-generating components or shall be thermally shielded to limit the case temperature to 90°C .

Transformers and inductors shall be resin-impregnated for protection against moisture. Capacitors shall be metal cased and liquid tight, and shall be provided with pressure sensitive interrupters.

The lamp current crest factor shall not exceed 1.7 for a ± 10 percent line voltage variation at any lamp voltage, from nominal through life.

The ballast shall be plainly marked as to its operating electrical ratings and rating of the lamp for which it is designed.

- (3) Starter Aid. The starter aid shall be a plug-in type mounted internally on the ballast access door. The starter aid shall be designed to provide the electrical characteristics recommended by the lamp Manufacturer for proper starting. The starter aid shall be designed to provide protection to itself in an open or short circuit condition for a minimum period of 12 months without loss of starter aid circuit life. The starter aid shall be installed within the luminaire housing in such a way as to prevent the effects of the environment on the starter aid.
- (4) Optical Assembly. The optical assembly shall consist of an aluminum reflector, a horizontally adjustable porcelain base lamp socket, and a crystal-clear heat and impact resistant flat glass lens. The optical assembly shall have a temperature resistant gasketing system. The lens shall be held in such a manner as to allow for its expansion and contraction.
- (5) Gasket and Filtering. The socket-reflector junctions shall be sealed against the entry of moisture, dirt and insects. Gaskets shall be made with a thick, high density Dacron felt. Gaskets shall be cemented full perimeter to the reflector seat with no metallic clips or fasteners. There shall be provision for thermal breathing. Other gasket materials must be submitted to the Illinois Tollway for approval.

The luminaires shall be equipped with a system for allowing filtered air to enter and leave the optical compartment of the luminaire. The purpose of the filtering system is to remove particulate from the inflowing air preventing their deposit or discoloration of the optical surfaces

Filter and optical system components shall be of materials which under normal luminaire operating conditions will not deteriorate or chemically change in such a way as to reduce the luminaire dirt depreciation factor.

- (6) Manufacturers. Luminaires shall be of the approved type as manufactured by American Electric Lighting, General Electric Lighting Solutions, Hubbell Lighting or approved equal.

Replace Article 1067.04 with the following:

1067.04 Underpass Luminaire. Underpass luminaires shall be in accordance with Article 1067.01 and the following.

- (a) General. Luminaires for underpass lighting shall be the enclosed type for a horizontal burning 150-watt high pressure sodium lamp.

The underpass luminaire shall consist of a die-cast aluminum or aluminum alloy housing, reflector, refractor, lamp socket, integral ballast, integral starting aid, gasket and other incidental materials to make the underpass luminaire fully operational as specified herein.

The underpass luminaire shall have latches to secure the doorframe to the housing and be complete with all supports, hardware, and appurtenant mounting accessories. All supports, hardware and appurtenant accessories shall be stainless steel. The underpass luminaire shall be suitable for lighting a roadway underpass at an approximate mounting height of 16 feet from a position suspended directly above the outside edge of the roadway shoulder or attached to a wall or pier.

- (b) Ballast. The integral ballast shall operate a 150-watt, 55-volt high pressure sodium lamp and provide reliable starting at temperatures as low as -20 degrees F. Ballast shall be UL listed and in compliance with NEMA and ANSI specifications. Ballast shall be high power factor type with Class H insulation. Ballast core, coil and capacitors shall be positioned for maximum heat dissipation.
- (c) Optical Assembly. The optical assembly shall consist of an aluminum reflector, a prismatic borasilicate glass refractor and porcelain base lamp socket. The optical assembly shall have a temperature resistant gasketing system. The refractor shall be held in such a manner as to allow for its expansion and contraction.
- (d) Gasket and Filtering. The socket reflector junctions shall be sealed against the entry of moisture, dirt and insects.
- (e) Refractor. The refractor shall be constructed of molded prismatic borosilicate thermal shock resistant glass. Other refractor material must be submitted to the Illinois Tollway for approval.
- (f) Manufacturers. Luminaires shall be of the approved type as manufactured by Holophane or approved equal.

Replace Article 1067.05 with the following:

1067.05 Sign Luminaire. Sign luminaires shall be in accordance with Article 1067.01 and 1061.09(n)

- (a) Electrical. The luminaire shall be suitable for 480-volt, 60-hertz operation as indicated in the Plans.
- (b) Manufacturers. Luminaires shall be of the approved type as manufactured by Holophane, NEPTUN or approved equal.

Add the following Article to Section 1067:

1067.08 Sign Beacon Luminaires and Barrier Warning Lights. Sign beacon luminaires and barrier warning lights shall be in accordance with the following.

- (a) Sign Beacon Luminaire.
 - (1) General. Overhead, ground mount and bridge mount sign beacon luminaires shall be 12 in. Diameter circular yellow LED's according to article 1078.01.

(b) Barrier Warning Light.

- (1) General. Barrier warning lights shall be 8 in. Diameter circular yellow LED's according to article 1078.01.

1067.09 Light Emitting Diode (LED) Luminaires. LED luminaires shall be in accordance with the following.

- (a) General. LED luminaires shall be installed in accordance with the Illinois Tollway Supplemental Specifications Section 821 and Article 821.03 of the Standard Specifications except as herein modified.

The luminaire shall be mechanically strong, easy to maintain, contain sealed optics and be designed to be incorporated into a lighting system with an expected 30-year lifetime.

When specified, the luminaire shall be provided with suitable mounting brackets or hardware for the specified application.

The luminaire shall be listed for wet locations and shall be in compliance with UL 8750 and UL 1598. The luminaire shall be identified as such by a holographic UL tag/sticker adhered to the inside of the luminaire housing positioned to be viewable without the removal of mounted components.

The luminaire shall be in compliance with ANSI C136.37.

LED light sources and drivers shall comply with the material requirements of the Restriction of Hazardous Substances (RoHS) Directive 2011/65/EU.

- (b) Manufacturer Requirements. The Manufacturer shall have a minimum of 30 years' experience manufacturing High Intensity Discharge (HID) roadway luminaires and shall have a minimum of 5 years' experience manufacturing LED roadway luminaires. The Manufacturer shall have a minimum of 5,000 total LED roadway luminaires installed on a minimum of 30 separate installations, all within the continental U.S.A.

LED luminaires shall be assembled in the continental U.S.A. and shall be assembled and manufactured by the same Manufacturer.

- (c) Accredited Laboratory Requirements. Any reference herein to an "accredited laboratory" shall be defined as any National Voluntary Laboratory Accreditation Program (NVLAP) accredited or an equivalent International Laboratory Accreditation Cooperation (ILAC) accredited laboratory which participates in the National Institute of Standards and Technology (NIST) Measurement Assurance Program (MAP). Where test reports are required to be submitted within these specifications from an accredited laboratory, the laboratory accreditation certificate shall be provided with the specified report. The laboratory accreditation certificate shall state accreditation for the test performed.

(d) Photometric Performance Requirements. The Manufacturer's published photometric data for the specified luminaires is on file with the Illinois Tollway. All luminaires supplied under the Contract shall be according to Illinois Tollway Supplemental Specification Section 821 and shall meet or exceed the photometric performance requirements on file with the Illinois Tollway for the application and layout specified taking into account the product photometric performance tolerances relative to the Manufacturer's published rated values as defined by the Department of Energy (DOE) Lighting Facts Verification Testing as summarized below:

- Luminous Flux:
 - Maximum deviation of -9.6% from Manufacturer published data
- Power Consumption (Watts):
 - Maximum deviation of +12.7% from Manufacturer published data
- Color Rendering Index (CRI):
 - Maximum deviation of -5.9% from Manufacturer published data
- Correlated Color Temperature (CCT):
 - Maximum deviation of $\pm 8.1\%$ from Manufacturer published data
- Lumen Maintenance:
 - Maximum deviation of -10% from Manufacturer published data

All luminaires shall meet the DesignLight Consortium (DLC) Technical Requirements version 5.1.

(e) ANSI Identification Decal. The luminaire shall be provided with an external decal in compliance with ANSI C136.15 and an internal decal in compliance with ANSI C136.22. the decals shall be factory attached permanently to the inside and outside surfaces of the luminaire housing.

The external ANSI decal shall be positioned and of the appropriate size to enable a viewer, from ground level to identify the printed information. The external ANSI decal shall at a minimum contain the following information:

- (1) Luminaire Light Source Type (LED)
- (2) Luminaire Power Consumption (Watts)

The internal ANSI decal shall be positioned to be easily viewable without the removal of mounted components and at a minimum contain the following information:

- (1) Manufacturer's Name
- (2) Manufacturer's Model Number
- (3) Manufacture Production Date
- (4) Photometric Distribution Type

- (5) Operating Voltage and Frequency
- (6) Descriptive Wiring Diagram
- (7) UL and/or ETL Listing Mark (May be a separate label)
- (f) Housing. The luminaire housing shall be designed to ensure maximum heat dissipation and to prevent the accumulation of water, ice, dirt and debris. Mechanical design of protruding external surfaces, such as heat sink fins, shall discourage debris accumulation.

The luminaire housing shall include an integral passive heat dissipation method with no moving or rotating parts for heat management.

All electrical components shall be mounted within an electric compartment integral to the luminaire housing.

Each component shall be readily removable for replacement.

- (g) Hardware. All hardware (fasteners), brackets, and latches shall be of heavy duty construction and of high-strength corrosion resistant stainless steel. All hardware requiring to be loosened for field service operations shall be captive, not susceptible to falling from the luminaire during maintenance operations.
- (h) LED Optical Assembly. The LED optical assembly shall be a structured array optimized for roadway photometric distribution. It shall utilize high brightness, long life, minimum 70 CRI, 4,000 Kelvin ($\pm 10\%$) CCT LEDs binned according to ANSI C78.377.

Projected lumen depreciation at 50,000 hours of operation shall not exceed 10% of initial lumens output at the specified LED drive current and an ambient temperature of 25°C.

Projected LED end-of-life defined as 70% of initial lumens output (L70) shall not be less than 100,000 hours of operation at the specified LED drive current and an ambient temperature of 25°C.

Projected lumen depreciation and LED end-of-life calculations shall be performed in accordance with IES TM-21 or IES TM-28 (when available) utilizing minimum 10,000 hour LM-80 or LM-84 (when available) testing data and in situ temperature measurement testing data at the specified LED drive current.

The luminaire optical assembly shall have a minimum ingress penetration rating of IP66 as defined by ANSI/IEC 60529.

The luminaire optical assembly, when furnished with a lens and frame, shall be provided with a lens made of clear, UV stabilized, impact and heat resistant flat glass or acrylic. The lens and frame shall be securely attached to the main housing and be removable for servicing the LED optical assembly.

When the luminaire is furnished without a lens and frame, the LED module optic covers shall be UV stabilized.

- (i) Electrical. The luminaire shall be suitable for operation at the voltage specified on the Plans without the use of an external transformer.

Terminal blocks shall be provided for incoming 10-gauge power wiring.

All wiring within the luminaire housing shall be rated at 600 volts, 105 °C or higher.

Quick connect/disconnect plugs shall be supplied between the discrete electrical components within the luminaire such as the driver, surge protection device and optical assembly for easy removal. The quick connect/disconnect plugs shall be operable without the use of tools and while wearing insulated gloves.

- (1) Driver. Electronic LED drivers shall be integral to the luminaire and be in accordance with the following:

- The input voltage shall be suitable for operation over a range of 120 to 277 volts or 347 to 480 volts as required by the system operating voltage defined on the Plans.
- Shall maintain a power factor of greater than 90% and total harmonic distortion of less than 20% at 50% rated load across the full supply voltage range.
- Shall have a minimum efficiency of 90% at maximum load and a minimum efficiency of 85% operating at 50% power with efficiency defined as output power divided by input power.
- Shall be capable of reducing output current if the driver experiences overheating due to abnormal conditions.
- Shall be rated for operation within the range of -40°C to 55°C ambient temperature.

- Shall have a minimum expected rated life of 100,000 hours of operation in a 25°C ambient temperature environment with a case temperature of 65°C.
- Shall be UL Listed for damp locations.
- Shall be UL 1012 or UL 1310 Listed.
- Shall be in conformance with the minimum Electromagnetic Compatibility (EMC) requirements for Class A digital devices included in the FCC Rules and Regulations, Title 47, Part 15.
- Shall be in compliance with the minimum safety standards for leakage current in accordance with IEC 61347-1 and UL 1012.

(2) Internal Surge Protection. Luminaires shall meet ANSI C136.2 (latest revision) enhanced electrical transient immunity requirements. Integral surge protection shall be provided with each luminaire (external to the driver) in accordance with the following:

- Shall be labeled as Type 4 in accordance with UL 1449.
- Shall be rated for operation at system operating voltage defined on the Plans.
- Shall provide protection for Line-Ground, Line-Neutral, and Neutral-Ground in accordance with IEEE/ANSI C62.41.2 guidelines.
- Shall provide a minimum system protection level of 20 kV, 10 kA for roadway luminaires or 10 kV, 5 kA for building and parking lot luminaires using industry standard 8/20 μ Sec waveform.

(j) Finish. Painted or finished luminaire surfaces exposed to the environment shall be an electrostatically applied thermoset powdercoat that has been tested for superior weatherability and fade resistance. The luminaire finish shall be silver or gray in color.

Luminaire finish shall maintain a scribe creepage rating equal to or greater than Grade 6 on samples scribed thru to the substrate material per Section 6.1.1 thru 6.1.6 and evaluated per procedure A, Method 1 per ASTM/ANSI D1654 after a 1,000-hour salt spray test performed in accordance with ASTM B117.

Luminaire finish shall exhibit 30% or less reduction of gloss per ASTM D523 after a 500 hour ASTM G154 Cycle 6 QUV® accelerated weathering test.

(k) LED Roadway Luminaire. The luminaire shall be designed as to its size, shape and weight so it does not aggravate the vibration characteristics of its respective pole and it shall be compatible with Illinois Tollway Standard aluminum poles and mast arms.

The luminaire shall be vibration tested and pass ANSI C136.31 requirements. The luminaire shall be rated "3G" minimum peak acceleration. Vibration testing shall be performed with the same luminaire in all three planes of vibration testing (x,y,z).

The effective projected area (EPA) of the luminaire shall not exceed of 1.4

square feet. The total weight of the luminaire, complete with accessories, shall

not exceed 50 pounds.

The luminaire shall have a maximum allowable uplight IES BUG rating of U0 as defined in the "Luminaire Classification System for Outdoor Luminaires", IES TM-15-11.

The input wattage of the luminaire shall not exceed 240 watts.

The luminaire shall be provided with a fully prewired ANSI C136.41 compliant 7-pin twist lock photocell receptacle and shorting cap.

The luminaire housing shall be provided with provisions for the installation of a house-side shield even if not specifically specified on the plans. House side shields shall only be provided when specified.

The driver(s) shall be mounted in the rear of the luminaire on the inside of a hinged removable door or on a removable mounting pad. The removable door or pad shall be secure when fastened in place and all individual components shall be secure upon the removable element. Each component shall be readily removable from the removable element for replacement.

The luminaire mounting shall slip fit on a mast arm with a 2" tenon (2.375" outer diameter), and shall have a barrier to limit the amount of insertion. A tenon guard shall be provided to protect against birds and similar intruders. The luminaire shall be provided with a leveling surface and shall be capable of being tilted by ± 5 degrees in increments not exceeding 2.5 degrees with respect to the supporting arm.

The luminaire shall be provided with integral luminaire leveling bubble levels both internal and external of the luminaire housing. The internal bubble level shall be positioned in the rear of the luminaire within the driver housing and be visible with the removable door removed. The external bubble level shall be positioned to enable a viewer, from ground level to verify a level installation. The bubble levels shall be sufficient in size (minimum 2 inch diameter) to be clearly seen at a 50 foot mounting height, and shall verify both tilt and roll relative to the horizontal plane.

- (l) LED Underpass Luminaire. The luminaire shall be provided with a suitable mounting bracket capable of wall or ceiling mounting which allows for $+90^{\circ}$ adjustment from horizontal in 5° increments.

The luminaire shall be vibration tested and pass ANSI C136.31 requirements. The luminaire shall be rated "3G" minimum peak acceleration.

The input wattage of the luminaire shall not exceed 130

watts. The luminaire housing shall be gasketed and sealed.

- (m) LED Toll Plaza Canopy Luminaire. The luminaire shall be provided with a suitable mounting bracket as required for the application specified.

The input wattage of the luminaire shall not exceed 130

watts. The luminaire housing shall be gasketed and sealed.

- (n) LED Sign Luminaire. The luminaire shall consist of an aluminum housing, aluminum reflector, a heat and impact resistant prismatic borosilicate glass refractor, slip fitter and other incidental materials to make the luminaire fully operational as specified herein.

The luminaire shall be designed as to its size, shape and weight so it does not aggravate the vibration characteristics of its respective mounting appurtenances and it shall be compatible with Illinois Tollway Standard mounting details.

The luminaire shall be an enclosed type of a design suitable for lighting of expressway guide signs.

The luminaire shall be vibration tested and pass ANSI C136.31 requirements. The luminaire shall be rated "3G" minimum peak acceleration.

The luminaire shall be equipped with a slip filter to accept a 1-1/4" diameter conduit and a barrier to limit the length of insertion. A tenon guard shall be provided to protect against birds and similar intruders.

- (o) Testing. Testing of luminaires shall be required whenever the quantity of luminaires of a given type is 30 or more. For each luminaire type to be so tested, one (1) luminaire plus one (1) luminaire for each additional 50 luminaires shall be tested, i.e., no test is required if luminaire quantity is 1 to 29; test two (2) luminaires if quantity is 30-79; test three (3) luminaires if quantity is 80-129, etc. Testing is not required for temporary lighting luminaires.

The Contractor shall coordinate the luminaire testing, propose a properly accredited laboratory. If the proposed laboratory is not independent of the manufacturer, distributor, and Contractor, then the contractor shall propose an independent witness, submit their qualifications for approval prior to any testing, and pay all associated costs including travel expenses for the independent witness.

The independent witness shall be present when tests are performed by the luminaire manufacturer. A laboratory independent of the luminaire manufacturer, distributor, and Contractor may self-certify the test results, in which case an independent witness is not required.

After all qualifications have been approved, the luminaires for testing shall be randomly selected from the project luminaires by the independent witness at the Manufacturer's facility, or by the Engineer if no independent witness is required. In all cases, the selection of luminaires shall be a random selection from the entire completed lot of luminaires required for the contract. Selections from partial lots will not be allowed. The shipping carton of each luminaire selected for testing shall be marked with the Illinois Tollway contract number and a unique sample identifier.

At the time of random selection, the luminaire selected for testing shall be inspected for compliance with all physical, mechanical, and labeling requirements as specified herein. If deficiencies are found during the physical inspection, the Manufacturer shall correct the noted deficiencies on all luminaires of that type inspected for the

identified deficiencies. Upon completion of the deficiency corrections, the random luminaire selection and physical inspection shall be repeated. When the physical inspection is successfully completed, each luminaire selected for testing shall be marked with the Illinois Tollway project number and a unique sample identifier on the interior housing and ballast and be shipped to the accredited laboratory

Delays caused by the luminaire testing process shall not be grounds for additional compensation or extension of time.

Testing shall include photometric, colorimetric, and electrical testing.

Photometric testing shall be performed in accordance with I.E.S. LM-79 and, as a minimum shall yield an isocandela chart with max candela point and half candela trace indicated, an isocandela diagram, maximum plane and maximum cone plots of candela, a candlepower table (house and street side), a coefficient of utilization chart, a luminous flux distribution table, BUG rating report, initial delivered lumens and complete project specific photometric calculations based on specified requirements and test results. All testing shall cover the full spherical light output at a maximum of 5 degree intervals on both the vertical planes and the cones. Tests that mirror results from one hemisphere or quadrant to another are not acceptable.

Colorimetric values shall be determined from total spectral radiant flux measurements using a spectroradiometer.

The results for each photometric and colorimetric test performed shall be presented in a standard LM-79 report that includes the Illinois Tollway contract number, unique luminaire sample identifier, and the outputs listed above. The laboratory shall mark its test identification number on the interior of each sample luminaire.

Electrical testing shall be in accordance with NEMA and ANSI standards and, as a minimum shall include a complete check of wiring connections and a table of characteristics showing input amperes, watts, power factor, and total harmonic distortion.

The summary test report shall consist of a narrative documenting the test processes, highlight any deficiencies and corrective actions, and clearly state which luminaires have met or exceeded all test requirements and may be released for delivery to the jobsite. Photographs shall also be used as applicable to document luminaire deficiencies and shall be included in the test report. The summary test report shall include photometric and electrical test reports, and point-by-point photometric calculations performed in AGi32 sorted by luminaire type, wattage, and distribution. All test reports shall be certified by the independent test laboratory's authorized representative or the independent witness, as applicable, by a dated signature on the first page of each report. The summary test report and the test reports shall be delivered to the Engineer, Contractor and Illinois Tollway as an electronic submittal. Hard copy reports shall be sent by certified mail directly to the Engineer for record retention.

The test results shall be reviewed by the Engineer for conformance to published data. The Engineer shall certify that the luminaires tested conform to the

Manufacturer provided performance data that is on file with the Illinois Tollway.

Test results indicating performance in accordance with the Manufacturer published data and/or Manufacturer provided performance data that is on file with the Illinois Tollway within the range of acceptable manufacturing tolerances shall be considered acceptable. Acceptable manufacturing tolerances shall be defined as the product performance tolerances relative to the Manufacturer's published rated values as defined by the Department of Energy (DOE) Lighting Facts Verification Testing as summarized below:

- Luminous Flux:
 - Maximum deviation of -9.6% from Manufacturer published data
- Power Consumption (Watts):
 - Maximum deviation of +12.7% from Manufacturer published data
- Color Rendering Index (CRI):
 - Maximum deviation of -5.9% from Manufacturer published data
- Correlated Color Temperature (CCT):
 - Maximum deviation of $\pm 8.1\%$ from Manufacturer published data
- Lumen Maintenance:
 - Maximum deviation of -10% from Manufacturer published data

For any performance tolerances not identified above, acceptable manufacturing tolerances shall be defined $\pm 10\%$ deviation from Manufacturer published data and/or Manufacturer provided performance data that is on file with the Illinois Tollway.

Should any of the tested luminaires fail to perform within this allowable range, all luminaires of the type shall be deemed unacceptable and shall be replaced by alternate equipment in meeting the specifications. The submittal and testing process shall then be repeated in its entirety. At the discretion of the Contractor, a request may be made in writing to the Engineer that the unacceptable luminaire type be corrected in lieu of replacement with alternate equipment. The request shall identify the corrections to be made and upon approval of the request by the Engineer, the Contractor shall coordinate with the Manufacturer to apply the corrections to the entire lot of unacceptable luminaire types. Once corrections are completed, the testing process shall be repeated in its entirety including the random selection of test sample luminaires.

The process of retesting luminaires shall be repeated until luminaires for each type are approved for the project. Corrections and re-testing shall not be grounds for additional compensation or extension of time. No luminaires shall be shipped from the Manufacturer to the jobsite until all luminaire testing is completed and approved in writing.

Submittal information shall include a statement of intent to provide the testing as well as a request for approval by the Engineer of the chosen accredited laboratory. The qualifications of the independent witness shall be submitted to the Illinois Tollway for approval.

(p) Testing Documentation Requirements. Certified Test Reports from the accredited laboratory with the above results shall be supplied for each shipment. Certified test reports shall include the following identification information:

- (1) Manufacturer's name
- (2) Type of luminaires
- (3) Quantity of luminaires
- (4) A copy of shipping ticket
- (5) Manufacturer's lot number

(q) Preparation for Delivery. Luminaires shall be packaged in accordance with the standard commercial practices in the industry. Each shipping container shall be clearly marked to indicate contents, the Manufacturer, date of manufacture, make, model, electrical ratings, purchase order number, and Contract Number.

(r) Manufacturer's Warranty. The Manufacturer shall warrant, for a period of ten (10) years from the date that the luminaires are put into service, to the Illinois Tollway that each complete luminaire (consisting of the housing, optical assembly, LED arrays or assemblies, LED drivers, integral control devices, surge protection devices, and internal wiring/terminal blocks) shall be free from defects in material and workmanship, including any defects in material and workmanship that result in:

- (1) Deterioration of the finish in the form of blistering, cracking, or peeling exhibited on more than 15% of the total finished surface area of the luminaire.
- (2) Excessive lumen depreciation as defined by L70 Luminaire Lifetime (L70) or when 10% or greater of the LED sources fail to illuminate. L70 shall be defined as 70% of the Manufacturer published luminous flux data provided as part of the approved submittal package per the Submittal Requirements specified herein. Luminous Flux data shall be derived at the time of manufacture utilizing IESNA LM-79 testing methods

Each luminaire provided shall bear the date of manufacture and shall be installed and put into operation within one year of manufacture.

If any luminaires fail to meet the above warranty terms, the Illinois Tollway shall provide the Manufacturer with a written notice adequately describing any noted defect(s) within sixty (60) days after discovery of the defect. Upon receipt of such notification, the Manufacturer shall, at its sole discretion, provide a replacement luminaire or repair the defective luminaire.

(s) Submittal Requirements. Within 30 calendar days after contract execution, the Contractor shall submit, for approval, five (5) copies each of the following Manufacturer's product data for each type of luminaire.

- (1) Luminaire descriptive literature and catalog cuts.
- (2) Discrete LED light source descriptive literature and catalog cuts.
- (3) LED Driver descriptive literature and catalog cuts.
- (4) Surge Protection Device descriptive literature and catalog cuts.
- (5) Computer photometric calculations based on the performance tables.
 - a. Complete point-by-point illuminance, luminance, and veiling luminance calculations including listings of all indicated averages and uniformity ratios as outlined in the Illinois Tollway Guidelines for Roadway Illumination.
 - b. All calculations shall be performed in accordance with I.E.S. PR-8 utilizing AGi32 software.
- (6) I.E.S. LM-79 Photometric Report from an accredited laboratory including (*laboratory accreditation shall be attached to test report*):
 - a. Luminaire I.E.S. BUG rating according to I.E.S. TM-15.
 - b. Luminaire classification system graph with both recorded lumen value and percent lumens by zone.
 - c. Total luminaire input wattage at specified luminaire operating voltage.
 - d. Total luminaire input current at specified luminaire operating voltage.
 - e. Luminaire efficacy expressed in lumens per watt (lpw).
 - f. LED drive current (should match that specified).
 - g. Initial delivered lumens at specified color temperature, drive current and ambient temperature of 25°C.
- (7) Projected lumen depreciation calculations performed in accordance with IES TM-21 (or IES TM-28 when available) utilizing minimum 10,000 hour LM-80 (or LM-84 when available) testing data and in situ temperature measurement testing data at the specified LED drive current:
 - a. At 50,000 hours.
 - b. At 100,000 hours.
 - c. L70 Hours at 25 degrees Celsius.
- (8) Resonance Search and Dwell Test Reports from an accredited laboratory for testing performed in accordance with ANSI C136.31 indicating a minimum "3G" peak acceleration rating. (*laboratory accreditation shall be attached to test report*)

- (9) Ingress Protection Test Reports from an accredited laboratory for testing performed on the Luminaire Optical Assembly indicating the IEC ingress protection for the luminaire optical assembly in accordance with ANSI C136.25.
- (10) 1,000 Hour Salt Spray Test Reports from an accredited laboratory for testing performed in accordance with ASTM B117 indicating a scribe creepage rating per ASTM D1654. (*laboratory accreditation shall be attached to test report*)
- (11) Accelerated Weathering Test Reports from an accredited laboratory for testing performed in accordance with ASTM G154 Cycle 6 QUV® indicating a reduction of gloss less than or equal to 30%. (*laboratory accreditation shall be attached to test report*)
- (12) Manufacturer's Warranty.
- (13) Manufacturer's installation, maintenance and washing instructions.
- (14) Statement of intent to provide the testing as specified in Article 1067.09(n), and request for approval of the chosen independent accredited laboratory.
- (15) Manufacturer's Declaration of Compliance indicating:
 - a. That luminaire Manufacturer requirements are in compliance with the provisions specified herein.
 - b. List of projects with continental U.S.A. each detailing type and quantity of LED luminaires provided.
 - c. Luminaire is UL listed for wet locations.
 - d. Luminaire is in compliance with UL 8750 and UL 1598.
 - e. Luminaire is in compliance with ANSI C136.37.
 - f. Luminaire LED light sources and drivers are in compliance with RoHS Directive 2011/65/EU.
 - g. Luminaires for delivery to Illinois Tollway have been assembled in the continental U.S.A and that assembly has been performed by the Manufacturer.
 - h. LEDs utilized within luminaire were binned according to ANSI C78.377.

SECTION 1069. POLE AND TOWER

Issued April 1, 2016
Revised February 1, 2022

This Supplemental Specification amends and supersedes the provisions of the Illinois Department of Transportation Standard Specifications for Road and Bridge Construction, adopted January 1, 2022 and shall be construed to be a part thereof, superseding any conflicting provisions thereof applicable to the work under the contract.

Replace Article 1069.01(e) with the following:

- (e) Handhole. The pole shall have a handhole near the base, oriented relative to the mast arm(s) as indicated on the Plans. The handhole opening shall be reinforced with minimum dimensions of not less than four (4) inches wide by six (6) inches high. A lug shall be provided on the interior wall of the shaft opposite the handhole for a ground connection.

The handhole cover shall be fastened to the reinforcing frame with two ¼"-20 tpi slotted, 18-8 stainless steel screws well coated with anti-seize compound. Two ¼"-20 tpi 18-8 stainless steel inserts shall be installed in the aluminum reinforcing frame to receive the stainless steel screws that fasten the cover to the reinforcing frame. Captive cage nut retainers or U-Style (Tinnerman nuts) made entirely of 18-8 stainless steel may be used in lieu of the stainless steel inserts.

Add the following to Article 1069.01:

- (k) All materials fabricated for use on Illinois Tollway projects are subject to inspection and release by the Illinois Tollway Material Engineering Consultant Quality Assurance (MEC- QA). Notification shall be provided to the Illinois Tollway Materials Engineering Consultant Quality Assurance division 30 days in advance of any fabrication or shipping dates. All shipments shall be accompanied by an executed Request for Inspection of Materials (RFIM) form.
- (l) Pole Dimensions. All light poles shall be in accordance with the dimensions shown on the Plans.

Replace the second sentence of the fifth paragraph of Article 1069.02 with the following:

The anchor rod covers shall be fastened to the base with 1/4" stainless steel hex head screws coated with anti-seize compound.

Replace Article 1069.02 (a)(1) with the following:

- (1) Mast Arm. Luminaire mast arms shall be a truss type. Mast arms of 10 foot, 12 foot, and 15 foot lengths shall have a rise of 66 inches. Mast arms of 6 foot and 8 foot lengths shall have a rise of 34 inches.

The top chord of the mast arms shall have raceway openings extended through the bracket. Raceway openings shall be free of burrs and rough edges that may be injurious to the wires routed within.

Mast arms shall be made of tubular round, seamless aluminum alloy according to of type 6063-T6 aluminum alloy with a 4-bolt extruded clevis clamp of wrought aluminum alloy welded to each longitudinal member for pole attachment at the pole end, and a slip fitter of the specified outer diameter at the opposite end for luminaire mounting. The arms shall attach to the shaft by a clamp type bracket with bolts, nuts, and lock washers.

Mast arms shall be made of seamless extruded aluminum alloy tubing of tapered, elliptical construction according to ASTM B 221, 6063 T6, with the major axis horizontal and shall be designed to AASHTO wind shape factors and welding specifications.

Mast arms shall be provided with a 4-bolt extruded clevis clamp of wrought aluminum alloy welded to each longitudinal member for pole attachment at the pole end and a slip fitter of the specified outer diameter at the opposite end for luminaire mounting.

All hardware shall be 300-Series stainless steel.

Add the following paragraphs to Article 1069.02 (a):

(4) Cable Assembly. Cable (wire rope) shall be manufactured from Type 304 or Type 316 stainless steel having a maximum carbon content of 0.08% and shall be a stranded assembly. Cables shall be 0.125" diameter, 7x19 Class strand core and shall have no strand joints or strand splices. Cables shall be manufactured and listed for compliance with Federal Specification RR-W-1410 and Mil-DTL-83420.

Cable clips shall be stainless steel compatible with the cable and as recommended by the cable manufacturer. Clips shall be same stainless-steel grade as the wire rope they are connected to.

Steel plates for single arm cable assemblies shall be manufactured from Type 304 or Type 316 stainless steel having a maximum carbon content of 0.08% and shall be 4" by 2 1/2" by 3/8" with a 3/8" diameter hole. All plate edges shall be ground smooth.

Add the following paragraphs to Article 1069.02:

(c) Welding.

(1) Requirements. The Contractor shall submit the manufacturer's welding procedures to the Engineer for approval prior to fabrication. The welding symbols and complete information regarding location, type, size, welding sequence, and WPSs shall be shown on all shop drawings. Manufacturer shall create a Procedure Qualification Record (PQR) and define a Welding Procedure Specification (WPS). PQR shall contain the test results of the testing specimens per AWS D1.2 for aluminum components, including Section 3.9 for welding to the cast base.

All welds testing shall be in accordance with Section 3 of AWS D1.2 for aluminum components. Pole manufacturer shall perform all welding in accordance with AWS D1.2/D1.2M: 2014. Ten (10%) of members fabricated shall require liquid dye penetrant testing with acceptance criteria in accordance with AWS D1.2 Structural Aluminum Welding Code.

2) Inspection. In addition to manufacturer's own welding inspection, the Contractor shall have welding inspected by an independent Certified Welding Inspector (CWI). The selected inspector shall be approved the Engineer before any inspection is performed.

The independent welding inspector shall send the test results to the Engineer.

(d) Poles shall have second mode vibration dampers as well as first mode dampeners. In lieu of first mode dampeners a vortex shedding appurtenance may be used.

(e) Pole manufacturer shall submit design calculations for the pole assembly showing the pole's adequacy with the proposed luminaires for strength, deflection and fatigue. The pole's first mode and second mode fundamental frequencies shall also be calculated with or without the luminaire.

(f) Poles with mast arms shall be designed to satisfy fatigue criteria per AASHTO Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals 7th Ed. with 2017 & 2018 Interims (noted herein as AASHTO) with the procedure and exceptions as noted below:

1. Regardless of pole height, poles with mast arms shall satisfy the fatigue criteria for high mast light towers (HMLTs) per AASHTO Section C11.7.2 paragraph 5. Applicable fatigue design loads are detailed in AASHTO Section 11.7.2. Importance Category I shall be assumed for the structures.

2. Nominal wind induced stress range (due to fatigue design loads), Δf_n , shall be calculated per AASHTO 11.9.2.

3. Aluminum structures must be designed to provide infinite life under fatigue loading per AASHTO 11.9.3. When calculating fatigue resistance per AASHTO, consider constant amplitude fatigue threshold (CAFT), ΔFTH . For aluminum structures, per AASTHO 11.9.3, ΔFTH shall be calculated by dividing the respective threshold values of steel with 2.6.

4. Fatigue resistance at locations of potential fatigue cracking on the pole and mast arm must be checked. These areas are:

a. Pole base (weld connecting pole to baseplate), AASHTO Table 11.9.3.1-1 Part 5.4, with applicable Fatigue Stress Concentration Factor (KI) per AASHTO Eq. 11.9.3.1-1 and Table 11.9.3.1-2.

b. Reinforced handhole, root of reinforcement-to-tube weld, AASHTO Table 11.9.3.1-1 Part 3.2.

c. Reinforced handhole, toe of reinforcement-to-tube weld, AASHTO Table 11.9.3.1-1 Part 3.2.

d. Mast arm connection to pole, dependent on connection geometry. Common geometry is listed below for reference. Refer to AASHTO Table 11.9.3.1-1 to select appropriate connection geometry.

i. Fillet weld: AASHTO Table 11.9.3.1-1 Part 5.4.

ii. Full penetration groove welds without backing ring: AASHTO Table 11.9.3.1-1 Part 4.6.

iii. Full penetration groove welds with backing ring welded to plate and tube: AASHTO Table 11.9.3.1-1 Part 4.4.

iv. Full penetration groove welds with backing ring welded to plate only: AASHTO Table 11.9.3.1-1 Part 4.5.

v. Full penetration groove welds with backing ring welded to tube only: AASHTO Table 11.9.3.1-1 Part 4.7.

5. For the locations of potential fatigue cracking, noted above, compare the factored nominal wind induced stress range to the factored fatigue resistance per AASHTO 11.5.1. In addition, calculate the performance ratio by dividing the factored wind induced stress range by the factored fatigue resistance, $Y(\Delta f_n)/\phi(\Delta F_{TH})$. The comparison in AASHTO Eqn.11.5-1 indicates that an acceptable performance ratio is less than 1. However, maximum allowable performance ratios for structures with overall heights lower than 55 ft. at the locations of potential fatigue cracking are as noted below:

- a. Pole base (weld connecting pole to base plate): 2.15
- b. Reinforced handhole, root of reinforcement-to-tube weld: 2.25
- c. Reinforced handhole, toe of reinforcement-to-tube weld: 1.3
- d. Mast arm connection to pole: 1.0

6. Structures 55 ft and taller shall satisfy AASHTO Eqn. 11.5-1 (i.e., maximum allowable performance ratio at all locations of potential fatigue cracking is < 1.0).

Add the following to Article 1069.03:

All products shall be welded per 1069.08(b) and shall be inspected per 1069.08(c).

SECTION 1070. FOUNDATION AND BREAKAWAY DEVICES

Issued April 1, 2016
Revised February 1, 2022

This Supplemental Specification amends and supersedes the provisions of the Illinois Department of Transportation Standard Specifications for Road and Bridge Construction, adopted January 1, 2022 and shall be construed to be a part thereof, superseding any conflicting provisions thereof applicable to the work under the contract.

Section 1070 of the Standard Specifications for Road and Bridge Construction, adopted January 1, 2022 shall be modified as follows:

Replace the second, third, fourth and fifth paragraphs of Article 1070.01 with the following paragraphs:

Metal Foundations shall be capable of withstanding 13,000 lbs.-ft. of installation torque continuously applied about its vertical axis without failure or distortion.

Metal foundation shaft diameter, baseplate size, shaft length and bolt circles shall be as shown on the Plans. The foundation shaft shall be smooth and cut to length, 90-degree square on the top end and to the true helical shape on the bottom end. The foundation shall be fabricated with two (2) cableway openings (each 3-1/2 inches wide by 21 inches long) parallel with the shaft axis and aligned with the baseplate faces 180 degrees apart. Any roughness must be ground or sanded smooth before galvanizing. The helix shall be a full circle, shaped to a maximum of 3 inches true helical form with a projected annular area of not less than 82 square inches. The helix shall be produced by matching metal die from formable and weldable 3/8 inch thick minimum steel. When welded to the shaft, it shall provide an opening or "Window" for drainage of not less than 3 square inches. The pilot point shall be sheared on a 45-degree angle from 1-3/8 inches round bar steel. It shall project a minimum of 6 inches below the leading edge of the helix to provide competent placement stabilization of the foundation during the initial stages of the foundation installation. The helix and pilot point shall be cleaned to remove scale and any contaminants before welding.

Each foundation shall be supplied with the appropriate bolts or threaded stubs, nuts, and washers. Fasteners for attaching poles to the foundations shall be ASTM A325 (AASHTO A325), Type I or equivalent high strength bolts or studs. The use of bolts or studs will be determined by the particular light pole bases to be installed on the foundations. Bolts shall be 1 inch nominal diameter Heavy Hex Structural Bolts of sufficient length for the intended installation, with comparable plate washers and hex nuts. Studs shall be 1 inch nominal diameter of sufficient length for the intended installation, with comparable hex double jam nuts. Base plates are not required to be tapped for studs. All fastener parts shall be hot dip galvanized in accordance with ASTM A153 (AASHTO M232). When bolts and nuts are shipped assembled, the nuts are to be tightened securely to prevent loss in shipment; otherwise, the hardware will be supplied in a bag securely fastened to the foundation.

Replace Article 1070.04 (b)(2) with the following:

- (2) The device shall be approximately 9 inches high and shall have a large access door of the same material as the base held in place by an aluminum strap and stainless steel hex cap screw. The access door shall be a minimum 11 inches wide by 5-1/2 inches high.

Replace Article 1070.04 (b)(4) with the following:

- (4) The bottom foundation bolt circle and the top pole bolt circle shall both be 15 inches.

SECTION 1088. WIREWAY AND CONDUIT SYSTEM

**Issued April 1, 2016
Revised February 1, 2022**

This Supplemental Specification amends and supersedes the provisions of the Illinois Department of Transportation Standard Specifications for Road and Bridge Construction, adopted January 1, 2022 and shall be construed to be a part thereof, superseding any conflicting provisions thereof applicable to the work under the contract.

Revise the second paragraph of Article 1088.01(a) to read:

Conduit fittings shall be cast metal bodies and covers and shall meet UL Standard 514. Elbows and nipples shall conform to the specifications for conduit. All fittings and couplings for rigid conduit shall be of the threaded type.

Replace the first paragraph of Article 1088.01(a)(3) with the following:

- (3) PVC Coated Galvanized Steel Conduit. The conduit prior to coating shall meet the requirements for rigid steel conduit as specified herein. PVC coated rigid steel conduit shall meet UL Standard 6. Both the Zinc and PVC coatings must have been investigated by UL as providing the primary corrosion protection for the rigid steel conduit. Ferrous fittings for general service locations shall be UL Listed with both the Zinc and PVC coatings as the primary corrosion protection. Hazardous location fittings, prior to coating shall be UL listed.

Add the following to Article 1088.01:

- (7) PVC Coated Aluminum Conduit. The conduit prior to coating shall meet the requirements for aluminum conduit as specified herein. PVC coated aluminum conduit shall meet UL Standard 6A. The PVC coating must have been investigated by UL as providing the primary corrosion protection for the aluminum conduit.

The PVC coating shall have the following characteristics.

Hardness	85+ Shore A Durometer
Dielectric Strength	400V/mil @ 60 Hz
Aging	1,000 Hours Atlas Weatherometer
Brittleness Temperature	0°F (-18°C) when tested in accordance to ASTM D 746
Elongation	200 Percent

The exterior of the conduit shall have a PVC coating applied with bond strength greater than the tensile strength of the PVC coating. The nominal thickness of the PVC coating shall not be less than 40 mils. The PVC coating shall pass through the bonding test specified in Article 1088.01(a)(3) of the Standard Specification.

A two (2) part urethane coating shall be uniformly and consistently applied to the interior of the conduit. The internal coating shall have a nominal thickness of not less than 2 mils. The interior coating shall be applied in a manner so there are no runs, drips, or pinholes

at any point. The coating shall not peel, flake, or chip off after a cut is made in the conduit or a scratch is made in the coating. The interior coating shall afford sufficient flexibility to permit field bending of the conduit without cracking or flaking of the interior coating.

Ferrous fittings for general service locations shall be UL Listed with the PVC coating as the primary corrosion protection. Hazardous location fittings, prior to coating shall be UL listed.

Replace Article 1088.01(c) with the following:

- (c) Coilable Nonmetallic Conduit. Coilable Nonmetallic Conduit (polyethylene duct) shall be a UL Listed plastic duct which is intended for underground use and can be manufactured and coiled or reeled in continuous transportable lengths and uncoiled for further processing and/or installation without adversely affecting its properties of performance.

The duct shall be in accordance with the requirements of ASTM F2160.

The duct shall be composed of black high density polyethylene meeting the requirements of ASTM D 3350, Class C, Grade PE30.

Duct dimensions shall conform to the following table within the manufacturing tolerances set forth in ASTM F2160. Duct sizes through 3" shall conform to Tables 3 and 8 for Schedule 40 PE conduit. 4" duct shall conform to Tables 2 and 5 for SDR 13.5 PE conduit.

Nom. Duct Diameter		Nom. Outside Diameter		Min. Wall Thickness	
mm	In	mm	in	mm	in
27	1	33.4	1.315	3.4	0.133
35	1.25	42.2	1.660	3.6	0.140
41	1.5	48.3	1.900	3.7	0.145
53	2.0	60.3	2.375	3.9	0.154
76	3.0	88.9	3.50	5.5	0.216
102	4.0	114.3	4.50	8.5	0.333

Performance Tests. Polyethylene Duct testing procedures and test results shall meet the requirements of ASTM F2160. Certified copies of the test report shall be submitted to the Engineer prior to the installation of the duct.

Revise the fourth paragraph of Article 1088.04 to read:

Junction box covers shall be attached to the box with slotted hex head screws unless otherwise specified. For boxes mounted on bridge structures, the cover shall be hinged and furnished with captive screws.

Revise the third sentence of the first paragraph of Article 1088.05 (c) to read:

The cover shall contain a cast-in-place legend "COMMUNICATIONS", "TRAFFIC SIGNALS", or "ELECTRIC" when used for Illinois Tollway communication work, traffic signals or highway lighting, respectively.

Replace Article 1088.06 with the following:

1088.06 Handhole Frame and Cover. Illinois Tollway heavy duty handholes shall be installed in all paved and un-paved areas. The cast iron frame and cover for Illinois Tollway heavy duty handholes shall be Neenah Foundry R-6662-PS with Type G lifting handle, East Jordan Iron Works No. EJ 8216 with MPIC or an approved equal.

ACCESSIBLE PEDESTRIAN SIGNALS (APS) (BDE)

Effective: April 1, 2003

Revised: January 1, 2022

Description. This work shall consist of furnishing and installing accessible pedestrian signals (APS). Each APS shall consist of an interactive vibrotactile pedestrian pushbutton with speaker, an informational sign, a light emitting diode (LED) indicator light, a solid-state electronic control board, a power supply, wiring, and mounting hardware. The APS shall meet the requirements of the MUTCD and Sections 801 and 888 of the Standard Specifications, except as modified herein.

Electrical Requirements. The APS shall operate with systems providing 95 to 130 VAC, 60 Hz and throughout an ambient air temperature range of -29 to +160 °F (-34 to +70 °C).

The APS shall contain a power protection circuit consisting of both fuse and transient protection.

Audible Indications. A pushbutton locator tone shall sound at each pushbutton and shall be deactivated during the associated walk indication and when associated traffic signals are in flashing mode. Pushbutton locator tones shall have a duration of 0.15 seconds or less and shall repeat at 1-second intervals. Each actuation of the pushbutton shall be accompanied by the speech message "Wait".

If two accessible pedestrian pushbuttons are placed less than 10 ft (3 m) apart or placed on the same pole, the audible walk indication shall be a speech walk message. This message shall sound throughout the WALK interval only. The verbal message shall be modeled after: "Street Name.' Walk Sign is on to cross "Street Name." For signalized intersections utilizing exclusive pedestrian phasing, the verbal message shall be "Walk sign is on for all crossings". In addition, a speech pushbutton information message shall be provided by actuating the APS pushbutton when the WALK interval is not timing. This verbal message shall be modeled after: "Wait. Wait to cross 'Street Name.' at 'Street Name.'".

Where two accessible pedestrian pushbuttons are separated by at least 10 ft (3 m), the walk indication shall be an audible percussive tone. It shall repeat at 8 to 10 ticks per second with a dominant frequency of 880 Hz.

Automatic volume adjustments in response to ambient traffic sound level shall be provided up to a maximum volume of 100 dBA. Locator tone and verbal messages shall be no more than 5 dB louder than ambient sound.

At locations with railroad interconnection, an additional speech message stating "Walk time shortened when train approaches" shall be used after the speech walk message. At locations with emergency vehicle preemption, an additional speech message "Walk time shortened when emergency vehicle approaches" shall be used after the speech walk message.

Pedestrian Pushbutton. Pedestrian pushbuttons shall be at least 2 in. (50 mm) in diameter or width. The force required to activate the pushbutton shall be no greater than 3.5 lb (15.5 N).

A red LED shall be located on or near the pushbutton which, when activated, acknowledges the pedestrians request to cross the street.

Signage. A sign shall be located immediately above the pedestrian pushbutton and parallel to the crosswalk controlled by the pushbutton. The sign shall conform to one of the following standard MUTCD designs: R10-3, R10-3a, R10-3e, R10-3i, R10-4, and R10-4a.

Tactile Arrow. A tactile arrow, pointing in the direction of travel controlled by a pushbutton, shall be provided on the pushbutton.

Vibrotactile Feature. The pushbutton shall pulse when depressed and shall vibrate continuously throughout the WALK interval.

Method of Measurement. This work will be measured for payment as each, per pushbutton.

Basis of Payment. This work will be paid for at the contract unit price per each for ACCESSIBLE PEDESTRIAN SIGNALS.

AGGREGATE SUBGRADE IMPROVEMENT (BDE)

Effective: April 1, 2012

Revised: April 1, 2022

Add the following Section to the Standard Specifications:

“SECTION 303. AGGREGATE SUBGRADE IMPROVEMENT

303.01 Description. This work shall consist of constructing an aggregate subgrade improvement (ASI).

303.02 Materials. Materials shall be according to the following.

Item	Article/Section
(a) Coarse Aggregate	1004.07
(b) Reclaimed Asphalt Pavement (RAP)	1031.09

303.03 Equipment. The vibratory roller shall be according to Article 1101.01, or as approved by the Engineer. Vibratory machines, such as tampers, shall be used in areas where rollers do not fit.

303.04 Soil Preparation. The minimum immediate bearing value (IBV) of the soil below the improved subgrade shall be according to the Department’s “Subgrade Stability Manual” for the aggregate thickness specified.

303.05 Placing and Compacting. The maximum nominal lift thickness of aggregate gradations CA 2, CA 6, and CA 10 when compacted shall be 9 in. (225 mm). The maximum nominal lift thickness of aggregate gradations CS 1, CS 2, and RR 1 when compacted shall be 24 in. (600 mm).

The top surface of the aggregate subgrade improvement shall consist of a layer of capping aggregate gradations CA 6 or CA 10 that is 3 in. (75 mm) thick after compaction. Capping aggregate will not be required when aggregate subgrade improvement is used as a cubic yard pay item for undercut applications.

Each lift of aggregate shall be compacted to the satisfaction of the Engineer. If the moisture content of the material is such that compaction cannot be obtained, sufficient water shall be added so that satisfactory compaction can be obtained.

303.06 Finishing and Maintenance. The aggregate subgrade improvement shall be finished to the lines, grades, and cross sections shown on the plans, or as directed by the Engineer. The aggregate subgrade improvement shall be maintained in a smooth and compacted condition.

303.07 Method of Measurement. This work will be measured for payment according to Article 311.08.

303.08 Basis of Payment. This work will be paid for at the contract unit price per cubic yard (cubic meter) or ton (metric ton) for AGGREGATE SUBGRADE IMPROVEMENT or at the contract unit price per square yard (square meter) for AGGREGATE SUBGRADE IMPROVEMENT, of the thickness specified.”

Add the following to Section 1004 of the Standard Specifications:

“**1004.07 Coarse Aggregate for Aggregate Subgrade Improvement (ASI).** The aggregate shall be according to Article 1004.01 and the following.

- (a) Description. The coarse aggregate shall be crushed gravel, crushed stone, or crushed concrete. In applications where greater than 24 in. (600 mm) of ASI material is required, gravel may be used below the top 12 in (300 mm) of ASI.
- (b) Quality. The coarse aggregate shall consist of sound durable particles reasonably free of deleterious materials.
- (c) Gradation.
 - (1) The coarse aggregate gradation for total ASI thickness less than or equal to 12 in. (300 mm) shall be CA 2, CA 6, CA 10, or CS 1.

The coarse aggregate gradation for total ASI thickness greater than 12 in. (300 mm) shall be CS 1 or CS 2 as shown below or RR 1 according to Article 1005.01(c).

COARSE AGGREGATE SUBGRADE GRADATIONS					
Grad No.	Sieve Size and Percent Passing				
	8"	6"	4"	2"	#4
CS 1	100	97 ± 3	90 ± 10	45 ± 25	20 ± 20
CS 2		100	80 ± 10	25 ± 15	

COARSE AGGREGATE SUBGRADE GRADATIONS (Metric)					
Grad No.	Sieve Size and Percent Passing				
	200 mm	150 mm	100 mm	50 mm	4.75 mm
CS 1	100	97 ± 3	90 ± 10	45 ± 25	20 ± 20
CS 2		100	80 ± 10	25 ± 15	

- (2) Capping aggregate shall be gradation CA 6 or CA 10.”

Add the following to Article 1031.09 of the Standard Specifications:

“(b) RAP in Aggregate Subgrade Improvement (ASI). RAP in ASI shall be according to Articles 1031.01(a), 1031.02(a), 1031.06(a)(1), and 1031.06(a)(2), and the following.

- (1) The testing requirements of Article 1031.03 shall not apply.
- (2) Crushed RAP used for the lower lift may be mechanically blended with aggregate gradations CS 1, CS 2, and RR 1 but it shall be no greater than 40 percent of the total product volume. RAP agglomerations shall be no greater than 4 in. (100 mm).
- (3) For capping aggregate, well graded RAP having 100 percent passing the 1 1/2 in. (38 mm) sieve may be used when aggregate gradations CS 1, CS 2, CA 2, or RR 1 are used in the lower lift. FRAP will not be permitted as capping material.

Blending shall be through calibrated interlocked feeders or a calibrated blending plant such that the prescribed blending percentage is maintained throughout the blending process. The calibration shall have an accuracy of ± 2.0 percent of the actual quantity of material delivered.”

BITUMINOUS MATERIALS COST ADJUSTMENTS (BDE)

Effective: November 2, 2006

Revised: August 1, 2017

Description. Bituminous material cost adjustments will be made to provide additional compensation to the Contractor, or credit to the Department, for fluctuations in the cost of bituminous materials when optioned by the Contractor. The bidder shall indicate with their bid whether or not this special provision will be part of the contract.

The adjustments shall apply to permanent and temporary hot-mix asphalt (HMA) mixtures, bituminous surface treatments (cover and seal coats), and preventative maintenance type surface treatments that are part of the original proposed construction, or added as extra work and paid for by agreed unit prices. The adjustments shall not apply to bituminous prime coats, tack coats, crack filling/sealing, joint filling/sealing, or extra work paid for at a lump sum price or by force account.

Method of Adjustment. Bituminous materials cost adjustments will be computed as follows.

$$CA = (BPI_P - BPI_L) \times (\%AC_V / 100) \times Q$$

- Where: CA = Cost Adjustment, \$.
 BPI_P = Bituminous Price Index, as published by the Department for the month the work is performed, \$/ton (\$/metric ton).
 BPI_L = Bituminous Price Index, as published by the Department for the month prior to the letting for work paid for at the contract price; or for the month the agreed unit price letter is submitted by the Contractor for extra work paid for by agreed unit price, \$/ton (\$/metric ton).
 %AC_V = Percent of virgin Asphalt Cement in the Quantity being adjusted. For HMA mixtures, the % AC_V will be determined from the adjusted job mix formula. For bituminous materials applied, a performance graded or cutback asphalt will be considered to be 100% AC_V and undiluted emulsified asphalt will be considered to be 65% AC_V.
 Q = Authorized construction Quantity, tons (metric tons) (see below).

For HMA mixtures measured in square yards: $Q, \text{ tons} = A \times D \times (G_{mb} \times 46.8) / 2000$. For HMA mixtures measured in square meters: $Q, \text{ metric tons} = A \times D \times (G_{mb} \times 1) / 1000$. When computing adjustments for full-depth HMA pavement, separate calculations will be made for the binder and surface courses to account for their different G_{mb} and % AC_V.

For bituminous materials measured in gallons: $Q, \text{ tons} = V \times 8.33 \text{ lb/gal} \times SG / 2000$
 For bituminous materials measured in liters: $Q, \text{ metric tons} = V \times 1.0 \text{ kg/L} \times SG / 1000$

- Where: A = Area of the HMA mixture, sq yd (sq m).
 D = Depth of the HMA mixture, in. (mm).
 G_{mb} = Average bulk specific gravity of the mixture, from the approved mix design.
 V = Volume of the bituminous material, gal (L).
 SG = Specific Gravity of bituminous material as shown on the bill of lading.

Basis of Payment. Bituminous materials cost adjustments may be positive or negative but will only be made when there is a difference between the BPI_L and BPI_P in excess of five percent, as calculated by:

$$\text{Percent Difference} = \{(BPI_L - BPI_P) \div BPI_L\} \times 100$$

Bituminous materials cost adjustments will be calculated for each calendar month in which applicable bituminous material is placed; and will be paid or deducted when all other contract requirements for the work placed during the month are satisfied. The adjustments shall not apply during contract time subject to liquidated damages for completion of the entire contract.

CEMENT, TYPE IL (BDE)

Effective: August 1, 2023

Add the following to Article 302.02 of the Standard Specifications:

“(k) Type IL Portland-Limestone Cement1001”

Revise Note 2 of Article 352.02 of the Standard Specifications to read:

“Note 2. Either Type I or Type IA portland cement or Type IL portland-limestone cement shall be used.”

Revise Note 1 of Article 404.02 of the Standard Specifications to read:

“Note 1. The cement shall be Type I portland cement or Type IL portland-limestone cement.”

Revise Article 1019.02(a) of the Standard Specifications to read:

“(a) Cement, Type I or IL1001”

COMPENSABLE DELAY COSTS (BDE)

Effective: June 2, 2017

Revised: April 1, 2019

Revise Article 107.40(b) of the Standard Specifications to read:

“(b) Compensation. Compensation will not be allowed for delays, inconveniences, or damages sustained by the Contractor from conflicts with facilities not meeting the above definition; or if a conflict with a utility in an unanticipated location does not cause a shutdown of the work or a documentable reduction in the rate of progress exceeding the limits set herein. The provisions of Article 104.03 notwithstanding, compensation for delays caused by a utility in an unanticipated location will be paid according to the provisions of this Article governing minor and major delays or reduced rate of production which are defined as follows.

- (1) Minor Delay. A minor delay occurs when the work in conflict with the utility in an unanticipated location is completely stopped for more than two hours, but not to exceed two weeks.
- (2) Major Delay. A major delay occurs when the work in conflict with the utility in an unanticipated location is completely stopped for more than two weeks.
- (3) Reduced Rate of Production Delay. A reduced rate of production delay occurs when the rate of production on the work in conflict with the utility in an unanticipated location decreases by more than 25 percent and lasts longer than seven calendar days.”

Revise Article 107.40(c) of the Standard Specifications to read:

“(c) Payment. Payment for Minor, Major, and Reduced Rate of Production Delays will be made as follows.

- (1) Minor Delay. Labor idled which cannot be used on other work will be paid for according to Article 109.04(b)(1) and (2) for the time between start of the delay and the minimum remaining hours in the work shift required by the prevailing practice in the area.

Equipment idled which cannot be used on other work, and which is authorized to standby on the project site by the Engineer, will be paid for according to Article 109.04(b)(4).

- (2) Major Delay. Labor will be the same as for a minor delay.

Equipment will be the same as for a minor delay, except Contractor-owned equipment will be limited to two weeks plus the cost of move-out to either the Contractor's yard or another job and the cost to re-mobilize, whichever is less. Rental equipment may be paid for longer than two weeks provided the Contractor presents adequate support to the Department (including lease agreement) to show retaining equipment on the job is the most economical course to follow and in the public interest.

- (3) Reduced Rate of Production Delay. The Contractor will be compensated for the reduced productivity for labor and equipment time in excess of the 25 percent threshold for that portion of the delay in excess of seven calendar days. Determination of compensation will be in accordance with Article 104.02, except labor and material additives will not be permitted.

Payment for escalated material costs, escalated labor costs, extended project overhead, and extended traffic control will be determined according to Article 109.13.”

Revise Article 108.04(b) of the Standard Specifications to read:

“(b) No working day will be charged under the following conditions.

- (1) When adverse weather prevents work on the controlling item.
- (2) When job conditions due to recent weather prevent work on the controlling item.
- (3) When conduct or lack of conduct by the Department or its consultants, representatives, officers, agents, or employees; delay by the Department in making the site available; or delay in furnishing any items required to be furnished to the Contractor by the Department prevents work on the controlling item.
- (4) When delays caused by utility or railroad adjustments prevent work on the controlling item.

- (5) When strikes, lock-outs, extraordinary delays in transportation, or inability to procure critical materials prevent work on the controlling item, as long as these delays are not due to any fault of the Contractor.
- (6) When any condition over which the Contractor has no control prevents work on the controlling item.”

Revise Article 109.09(f) of the Standard Specifications to read:

“(f) Basis of Payment. After resolution of a claim in favor of the Contractor, any adjustment in time required for the work will be made according to Section 108. Any adjustment in the costs to be paid will be made for direct labor, direct materials, direct equipment, direct jobsite overhead, direct offsite overhead, and other direct costs allowed by the resolution. Adjustments in costs will not be made for interest charges, loss of anticipated profit, undocumented loss of efficiency, home office overhead and unabsorbed overhead other than as allowed by Article 109.13, lost opportunity, preparation of claim expenses and other consequential indirect costs regardless of method of calculation.

The above Basis of Payment is an essential element of the contract and the claim cost recovery of the Contractor shall be so limited.”

Add the following to Section 109 of the Standard Specifications.

“**109.13 Payment for Contract Delay.** Compensation for escalated material costs, escalated labor costs, extended project overhead, and extended traffic control will be allowed when such costs result from a delay meeting the criteria in the following table.

Contract Type	Cause of Delay	Length of Delay
Working Days	Article 108.04(b)(3) or Article 108.04(b)(4)	No working days have been charged for two consecutive weeks.
Completion Date	Article 108.08(b)(1) or Article 108.08(b)(7)	The Contractor has been granted a minimum two week extension of contract time, according to Article 108.08.

Payment for each of the various costs will be according to the following.

- (a) Escalated Material and/or Labor Costs. When the delay causes work, which would have otherwise been completed, to be done after material and/or labor costs have increased, such increases will be paid. Payment for escalated material costs will be limited to the increased costs substantiated by documentation furnished by the Contractor. Payment for escalated labor costs will be limited to those items in Article 109.04(b)(1) and (2), except the 35 percent and 10 percent additives will not be permitted.

(b) Extended Project Overhead. For the duration of the delay, payment for extended project overhead will be paid as follows.

(1) Direct Jobsite and Offsite Overhead. Payment for documented direct jobsite overhead and documented direct offsite overhead, including onsite supervisory and administrative personnel, will be allowed according to the following table.

Original Contract Amount	Supervisory and Administrative Personnel
Up to \$5,000,000	One Project Superintendent
Over \$ 5,000,000 - up to \$25,000,000	One Project Manager, One Project Superintendent or Engineer, and One Clerk
Over \$25,000,000 - up to \$50,000,000	One Project Manager, One Project Superintendent, One Engineer, and One Clerk
Over \$50,000,000	One Project Manager, Two Project Superintendents, One Engineer, and One Clerk

(2) Home Office and Unabsorbed Overhead. Payment for home office and unabsorbed overhead will be calculated as 8 percent of the total delay cost.

(c) Extended Traffic Control. Traffic control required for an extended period of time due to the delay will be paid for according to Article 109.04.

When an extended traffic control adjustment is paid under this provision, an adjusted unit price as provided for in Article 701.20(a) for increase or decrease in the value of work by more than ten percent will not be paid.

Upon payment for a contract delay under this provision, the Contractor shall assign subrogation rights to the Department for the Department's efforts of recovery from any other party for monies paid by the Department as a result of any claim under this provision. The Contractor shall fully cooperate with the Department in its efforts to recover from another party any money paid to the Contractor for delay damages under this provision."

DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION (BDE)

Effective: September 1, 2000

Revised: March 2, 2019

FEDERAL OBLIGATION. The Department of Transportation, as a recipient of federal financial assistance, is required to take all necessary and reasonable steps to ensure nondiscrimination in the award and administration of contracts. Consequently, the federal regulatory provisions of 49 CFR Part 26 apply to this contract concerning the utilization of disadvantaged business

enterprises. For the purposes of this Special Provision, a disadvantaged business enterprise (DBE) means a business certified by the Department in accordance with the requirements of 49 CFR Part 26 and listed in the Illinois Unified Certification Program (IL UCP) DBE Directory.

STATE OBLIGATION. This Special Provision will also be used by the Department to satisfy the requirements of the Business Enterprise for Minorities, Females, and Persons with Disabilities Act, 30 ILCS 575. When this Special Provision is used to satisfy state law requirements on 100 percent state-funded contracts, the federal government has no involvement in such contracts (not a federal-aid contract) and no responsibility to oversee the implementation of this Special Provision by the Department on those contracts. DBE participation on 100 percent state-funded contracts will not be credited toward fulfilling the Department's annual overall DBE goal required by the US Department of Transportation to comply with the federal DBE program requirements.

CONTRACTOR ASSURANCE. The Contractor makes the following assurance and agrees to include the assurance in each subcontract the Contractor signs with a subcontractor.

The Contractor, subrecipient, or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The Contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of contracts funded in whole or in part with federal or state funds. Failure by the Contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the recipient deems appropriate, which may include, but is not limited to:

- (a) Withholding progress payments;
- (b) Assessing sanctions;
- (c) Liquidated damages; and/or
- (d) Disqualifying the Contractor from future bidding as non-responsible.

OVERALL GOAL SET FOR THE DEPARTMENT. As a requirement of compliance with 49 CFR Part 26, the Department has set an overall goal for DBE participation in its federally assisted contracts. That goal applies to all federal-aid funds the Department will expend in its federally assisted contracts for the subject reporting fiscal year. The Department is required to make a good faith effort to achieve the overall goal. The dollar amount paid to all approved DBE companies performing work called for in this contract is eligible to be credited toward fulfillment of the Department's overall goal.

CONTRACT GOAL TO BE ACHIEVED BY THE CONTRACTOR. This contract includes a specific DBE utilization goal established by the Department. The goal has been included because the Department has determined the work of this contract has subcontracting opportunities that may be suitable for performance by DBE companies. The determination is based on an assessment of the type of work, the location of the work, and the availability of DBE companies to do a part of the work. The assessment indicates, in the absence of unlawful discrimination and in an arena of fair and open competition, DBE companies can be expected to perform **5.00%** of the work. This percentage is set as the DBE participation goal for this contract. Consequently, in addition to the other award criteria established for this contract, the Department will only award this contract to a bidder who makes a good faith effort to meet this goal of DBE participation in

the performance of the work. A bidder makes a good faith effort for award consideration if either of the following is done in accordance with the procedures set for in this Special Provision:

- (a) The bidder documents enough DBE participation has been obtained to meet the goal or,
- (b) The bidder documents a good faith effort has been made to meet the goal, even though the effort did not succeed in obtaining enough DBE participation to meet the goal.

DBE LOCATOR REFERENCES. Bidders shall consult the IL UCP DBE Directory as a reference source for DBE-certified companies. In addition, the Department maintains a letting and item specific DBE locator information system whereby DBE companies can register their interest in providing quotes on particular bid items advertised for letting. Information concerning DBE companies willing to quote work for particular contracts may be obtained by contacting the Department's Bureau of Small Business Enterprises at telephone number (217) 785-4611, or by visiting the Department's website at:

<http://www.idot.illinois.gov/doing-business/certifications/disadvantaged-business-enterprise-certification/il-ucp-directory/index>.

BIDDING PROCEDURES. Compliance with this Special Provision is a material bidding requirement and failure of the bidder to comply will render the bid not responsive.

The bidder shall submit a DBE Utilization Plan (form SBE 2026), and a DBE Participation Statement (form SBE 2025) for each DBE company proposed for the performance of work to achieve the contract goal, with the bid. If the Utilization Plan indicates the contract goal will not be met, documentation of good faith efforts shall also be submitted. The documentation of good faith efforts must include copies of each DBE and non-DBE subcontractor quote submitted to the bidder when a non-DBE subcontractor is selected over a DBE for work on the contract. The required forms and documentation must be submitted as a single .pdf file using the "Integrated Contractor Exchange (iCX)" application within the Department's "EBids System".

The Department will not accept a Utilization Plan if it does not meet the bidding procedures set forth herein and the bid will be declared not responsive. In the event the bid is declared not responsive, the Department may elect to cause the forfeiture of the penal sum of the bidder's proposal guaranty and may deny authorization to bid the project if re-advertised for bids.

GOOD FAITH EFFORT PROCEDURES. The contract will not be awarded until the Utilization Plan is approved. All information submitted by the bidder must be complete, accurate and adequately document enough DBE participation has been obtained or document the good faith efforts of the bidder, in the event enough DBE participation has not been obtained, before the Department will commit to the performance of the contract by the bidder. The Utilization Plan will be approved by the Department if the Utilization Plan documents sufficient commercially useful DBE work to meet the contract goal or the bidder submits sufficient documentation of a good faith effort to meet the contract goal pursuant to 49 CFR Part 26, Appendix A. This means the bidder must show that all necessary and reasonable steps were taken to achieve the contract goal. Necessary and reasonable steps are those which, by their scope, intensity and appropriateness to the objective, could reasonably be expected to obtain sufficient DBE participation, even if they were not successful. The Department will consider the quality, quantity, and intensity of the kinds of efforts the bidder has made. Mere *pro forma* efforts, in other words efforts done as a matter of form, are not good faith efforts; rather, the bidder is expected to have taken genuine efforts that would be reasonably expected of a bidder actively and aggressively trying to obtain DBE participation sufficient to meet the contract goal.

- (a) The following is a list of types of action that the Department will consider as part of the evaluation of the bidder's good faith efforts to obtain participation. These listed factors are not intended to be a mandatory checklist and are not intended to be exhaustive. Other factors or efforts brought to the attention of the Department may be relevant in appropriate cases and will be considered by the Department.
- (1) Soliciting through all reasonable and available means (e.g. attendance at pre-bid meetings, advertising and/or written notices) the interest of all certified DBE companies that have the capability to perform the work of the contract. The bidder must solicit this interest within sufficient time to allow the DBE companies to respond to the solicitation. The bidder must determine with certainty if the DBE companies are interested by taking appropriate steps to follow up initial solicitations.
 - (2) Selecting portions of the work to be performed by DBE companies in order to increase the likelihood that the DBE goals will be achieved. This includes, where appropriate, breaking out contract work items into economically feasible units to facilitate DBE participation, even when the Contractor might otherwise prefer to perform these work items with its own forces.
 - (3) Providing interested DBE companies with adequate information about the plans, specifications, and requirements of the contract in a timely manner to assist them in responding to a solicitation.
 - (4) a. Negotiating in good faith with interested DBE companies. It is the bidder's responsibility to make a portion of the work available to DBE subcontractors and suppliers and to select those portions of the work or material needs consistent with the available DBE subcontractors and suppliers, so as to facilitate DBE participation. Evidence of such negotiation includes the names, addresses, and telephone numbers of DBE companies that were considered; a description of the information provided regarding the plans and specifications for the work selected for subcontracting; and evidence as to why additional agreements could not be reached for DBE companies to perform the work.

b. A bidder using good business judgment would consider a number of factors in negotiating with subcontractors, including DBE subcontractors, and would take a firm's price and capabilities as well as contract goals into consideration. However, the fact that there may be some additional costs involved in finding and using DBE companies is not in itself sufficient reason for a bidder's failure to meet the contract DBE goal, as long as such costs are reasonable. Also the ability or desire of a bidder to perform the work of a contract with its own organization does not relieve the bidder of the responsibility to make good faith efforts. Bidders are not, however, required to accept higher quotes from DBE companies if the price difference is excessive or unreasonable. In accordance with the above Bidding Procedures, the documentation of good faith efforts must include copies of each DBE and non-DBE subcontractor quote submitted to the bidder when a non-DBE subcontractor was selected over a DBE for work on the contract.
 - (5) Not rejecting DBE companies as being unqualified without sound reasons based on a thorough investigation of their capabilities. The bidder's standing within its industry, membership in specific groups, organizations, or associations and political or social

- affiliations (for example union vs. non-union employee status) are not legitimate causes for the rejection or non-solicitation of bids in the bidder's efforts to meet the project goal.
- (6) Making efforts to assist interested DBE companies in obtaining bonding, lines of credit, or insurance as required by the recipient or Contractor.
 - (7) Making efforts to assist interested DBE companies in obtaining necessary equipment, supplies, materials, or related assistance or services.
 - (8) Effectively using the services of available minority/women community organizations; minority/women contractors' groups; local, state, and federal minority/women business assistance offices; and other organizations as allowed on a case-by-case basis to provide assistance in the recruitment and placement of DBE companies.
- (b) If the Department determines the bidder has made a good faith effort to secure the work commitment of DBE companies to meet the contract goal, the Department will award the contract provided it is otherwise eligible for award. If the Department determines the bidder has failed to meet the requirements of this Special Provision or that a good faith effort has not been made, the Department will notify the responsible company official designated in the Utilization Plan that the bid is not responsive. The notification will also include a statement of reasons for the adverse determination. If the Utilization Plan is not approved because it is deficient as a technical matter, unless waived by the Department, the bidder will be notified and will be allowed no more than a five calendar day period to cure the deficiency.
- (c) The bidder may request administrative reconsideration of an adverse determination by emailing the Department at "DOT.DBE.UP@illinois.gov" within the five calendar days after the receipt of the notification of the determination. The determination shall become final if a request is not made on or before the fifth calendar day. A request may provide additional written documentation or argument concerning the issues raised in the determination statement of reasons, provided the documentation and arguments address efforts made prior to submitting the bid. The request will be reviewed by the Department's Reconsideration Officer. The Reconsideration Officer will extend an opportunity to the bidder to meet in person to consider all issues of documentation and whether the bidder made a good faith effort to meet the goal. After the review by the Reconsideration Officer, the bidder will be sent a written decision within ten working days after receipt of the request for reconsideration, explaining the basis for finding that the bidder did or did not meet the goal or make adequate good faith efforts to do so. A final decision by the Reconsideration Officer that a good faith effort was made shall approve the Utilization Plan submitted by the bidder and shall clear the contract for award. A final decision that a good faith effort was not made shall render the bid not responsive.

CALCULATING DBE PARTICIPATION. The Utilization Plan values represent work anticipated to be performed and paid for upon satisfactory completion. The Department is only able to count toward the achievement of the overall goal and the contract goal the value of payments made for the work actually performed by DBE companies. In addition, a DBE must perform a commercially useful function on the contract to be counted. A commercially useful function is generally performed when the DBE is responsible for the work and is carrying out its responsibilities by actually performing, managing, and supervising the work involved. The Department and Contractor are governed by the provisions of 49 CFR Part 26.55(c) on questions of commercially

useful functions as it affects the work. Specific counting guidelines are provided in 49 CFR Part 26.55, the provisions of which govern over the summary contained herein.

- (a) DBE as the Contractor: 100 percent goal credit for that portion of the work performed by the DBE's own forces, including the cost of materials and supplies. Work that a DBE subcontracts to a non-DBE does not count toward the DBE goals.
- (b) DBE as a joint venture Contractor: 100 percent goal credit for that portion of the total dollar value of the contract equal to the distinct, clearly defined portion of the work performed by the DBE's own forces.
- (c) DBE as a subcontractor: 100 percent goal credit for the work of the subcontract performed by the DBE's own forces, including the cost of materials and supplies, excluding the purchase of materials and supplies or the lease of equipment by the DBE subcontractor from the Contractor or its affiliates. Work that a DBE subcontractor in turn subcontracts to a non-DBE does not count toward the DBE goal.
- (d) DBE as a trucker: 100 percent goal credit for trucking participation provided the DBE is responsible for the management and supervision of the entire trucking operation for which it is responsible. At least one truck owned, operated, licensed, and insured by the DBE must be used on the contract. Credit will be given for the following:
 - (1) The DBE may lease trucks from another DBE firm, including an owner-operator who is certified as a DBE. The DBE who leases trucks from another DBE receives credit for the total value of the transportation services the lessee DBE provides on the contract.
 - (2) The DBE may also lease trucks from a non-DBE firm, including from an owner-operator. The DBE who leases trucks from a non-DBE is entitled to credit only for the fee or commission it receives as a result of the lease arrangement.
- (e) DBE as a material supplier:
 - (1) 60 percent goal credit for the cost of the materials or supplies purchased from a DBE regular dealer.
 - (2) 100 percent goal credit for the cost of materials or supplies obtained from a DBE manufacturer.
 - (3) 100 percent credit for the value of reasonable fees and commissions for the procurement of materials and supplies if not a DBE regular dealer or DBE manufacturer.

CONTRACT COMPLIANCE. Compliance with this Special Provision is an essential part of the contract. The Department is prohibited by federal regulations from crediting the participation of a DBE included in the Utilization Plan toward either the contract goal or the Department's overall goal until the amount to be applied toward the goals has been paid to the DBE. The following administrative procedures and remedies govern the compliance by the Contractor with the contractual obligations established by the Utilization Plan. After approval of the Utilization Plan and award of the contract, the Utilization Plan and individual DBE Participation Statements become part of the contract. If the Contractor did not succeed in obtaining enough DBE

participation to achieve the advertised contract goal, and the Utilization Plan was approved and contract awarded based upon a determination of good faith, the total dollar value of DBE work calculated in the approved Utilization Plan as a percentage of the awarded contract value shall become the amended contract goal. All work indicated for performance by an approved DBE shall be performed, managed, and supervised by the DBE executing the DBE Participation Commitment Statement.

- (a) NO AMENDMENT. No amendment to the Utilization Plan may be made without prior written approval from the Department's Bureau of Small Business Enterprises. All requests for amendment to the Utilization Plan shall be emailed to the Department at DOT.DBE.UP@illinois.gov.
- (b) CHANGES TO WORK. Any deviation from the DBE condition-of-award or contract plans, specifications, or special provisions must be approved, in writing, by the Department as provided elsewhere in the Contract. The Contractor shall notify affected DBEs in writing of any changes in the scope of work which result in a reduction in the dollar amount condition-of-award to the contract. Where the revision includes work committed to a new DBE subcontractor, not previously involved in the project, then a Request for Approval of Subcontractor, Department form BC 260A or AER 260A, must be signed and submitted. If the commitment of work is in the form of additional tasks assigned to an existing subcontract, a new Request for Approval of Subcontractor will not be required. However, the Contractor must document efforts to assure the existing DBE subcontractor is capable of performing the additional work and has agreed in writing to the change.
- (c) SUBCONTRACT. The Contractor must provide copies of DBE subcontracts to the Department upon request. Subcontractors shall ensure that all lower tier subcontracts or agreements with DBEs to supply labor or materials be performed in accordance with this Special Provision.
- (d) ALTERNATIVE WORK METHODS. In addition to the above requirements for reductions in the condition of award, additional requirements apply to the two cases of Contractor-initiated work substitution proposals. Where the contract allows alternate work methods which serve to delete or create underruns in condition of award DBE work, and the Contractor selects that alternate method or, where the Contractor proposes a substitute work method or material that serves to diminish or delete work committed to a DBE and replace it with other work, then the Contractor must demonstrate one of the following:
 - (1) The replacement work will be performed by the same DBE (as long as the DBE is certified in the respective item of work) in a modification of the condition of award; or
 - (2) The DBE is aware its work will be deleted or will experience underruns and has agreed in writing to the change. If this occurs, the Contractor shall substitute other work of equivalent value to a certified DBE or provide documentation of good faith efforts to do so; or
 - (3) The DBE is not capable of performing the replacement work or has declined to perform the work at a reasonable competitive price. If this occurs, the Contractor shall substitute other work of equivalent value to a certified DBE or provide documentation of good faith efforts to do so.

- (e) TERMINATION AND REPLACEMENT PROCEDURES. The Contractor shall not terminate or replace a DBE listed on the approved Utilization Plan, or perform with other forces work designated for a listed DBE except as provided in this Special Provision. The Contractor shall utilize the specific DBEs listed to perform the work and supply the materials for which each is listed unless the Contractor obtains the Department's written consent as provided in subsection (a) of this part. Unless Department consent is provided for termination of a DBE subcontractor, the Contractor shall not be entitled to any payment for work or material unless it is performed or supplied by the DBE in the Utilization Plan.

As stated above, the Contractor shall not terminate or replace a DBE subcontractor listed in the approved Utilization Plan without prior written consent. This includes, but is not limited to, instances in which the Contractor seeks to perform work originally designated for a DBE subcontractor with its own forces or those of an affiliate, a non-DBE firm, or with another DBE firm. Written consent will be granted only if the Bureau of Small Business Enterprises agrees, for reasons stated in its concurrence document, that the Contractor has good cause to terminate or replace the DBE firm. Before transmitting to the Bureau of Small Business Enterprises any request to terminate and/or substitute a DBE subcontractor, the Contractor shall give notice in writing to the DBE subcontractor, with a copy to the Bureau, of its intent to request to terminate and/or substitute, and the reason for the request. The Contractor shall give the DBE five days to respond to the Contractor's notice. The DBE so notified shall advise the Bureau and the Contractor of the reasons, if any, why it objects to the proposed termination of its subcontract and why the Bureau should not approve the Contractor's action. If required in a particular case as a matter of public necessity, the Bureau may provide a response period shorter than five days.

For purposes of this paragraph, good cause includes the following circumstances:

- (1) The listed DBE subcontractor fails or refuses to execute a written contract;
- (2) The listed DBE subcontractor fails or refuses to perform the work of its subcontract in a way consistent with normal industry standards. Provided, however, that good cause does not exist if the failure or refusal of the DBE subcontractor to perform its work on the subcontract results from the bad faith or discriminatory action of the Contractor;
- (3) The listed DBE subcontractor fails or refuses to meet the Contractor's reasonable, nondiscriminatory bond requirements;
- (4) The listed DBE subcontractor becomes bankrupt, insolvent, or exhibits credit unworthiness;
- (5) The listed DBE subcontractor is ineligible to work on public works projects because of suspension and debarment proceedings pursuant 2 CFR Parts 180, 215 and 1200 or applicable state law.
- (6) The Contractor has determined the listed DBE subcontractor is not a responsible contractor;
- (7) The listed DBE subcontractor voluntarily withdraws from the projects and provides written notice to the Contractor of its withdrawal;
- (8) The listed DBE is ineligible to receive DBE credit for the type of work required;

- (9) A DBE owner dies or becomes disabled with the result that the listed DBE subcontractor is unable to complete its work on the contract;
- (10) Other documented good cause that compels the termination of the DBE subcontractor. Provided, that good cause does not exist if the Contractor seeks to terminate a DBE it relied upon to obtain the contract so that the Contractor can self-perform the work for which the DBE contractor was engaged or so that the Contractor can substitute another DBE or non-DBE contractor after contract award.

When a DBE is terminated or fails to complete its work on the Contract for any reason, the Contractor shall make a good faith effort to find another DBE to substitute for the original DBE to perform at least the same amount of work under the contract as the terminated DBE to the extent needed to meet the established Contract goal. The good faith efforts shall be documented by the Contractor. If the Department requests documentation under this provision, the Contractor shall submit the documentation within seven days, which may be extended for an additional seven days if necessary at the request of the Contractor. The Department will provide a written determination to the Contractor stating whether or not good faith efforts have been demonstrated.

- (f) FINAL PAYMENT. After the performance of the final item of work or delivery of material by a DBE and final payment therefore to the DBE by the Contractor, but not later than 30 calendar days after payment has been made by the Department to the Contractor for such work or material, the Contractor shall submit a DBE Payment Agreement on Department form SBE 2115 to the Resident Engineer. If full and final payment has not been made to the DBE, the DBE Payment Agreement shall indicate whether a disagreement as to the payment required exists between the Contractor and the DBE or if the Contractor believes the work has not been satisfactorily completed. If the Contractor does not have the full amount of work indicated in the Utilization Plan performed by the DBE companies indicated in the Utilization Plan and after good faith efforts are reviewed, the Department may deduct from contract payments to the Contractor the amount of the goal not achieved as liquidated and ascertained damages. The Contractor may request an administrative reconsideration of any amount deducted as damages pursuant to subsection (h) of this part.
- (g) ENFORCEMENT. The Department reserves the right to withhold payment to the Contractor to enforce the provisions of this Special Provision. Final payment shall not be made on the contract until such time as the Contractor submits sufficient documentation demonstrating achievement of the goal in accordance with this Special Provision or after liquidated damages have been determined and collected.
- (h) RECONSIDERATION. Notwithstanding any other provision of the contract, including but not limited to Article 109.09 of the Standard Specifications, the Contractor may request administrative reconsideration of a decision to deduct the amount of the goal not achieved as liquidated damages. A request to reconsider shall be delivered to the Contract Compliance Section and shall be handled and considered in the same manner as set forth in paragraph (c) of "Good Faith Effort Procedures" of this Special Provision, except a final decision that a good faith effort was not made during contract performance to achieve the goal agreed to in the Utilization Plan shall be the final administrative decision of the Department. The result of the reconsideration process is not administratively appealable to the U.S. Department of Transportation.

FUEL COST ADJUSTMENT (BDE)

Effective: April 1, 2009

Revised: August 1, 2017

Description. Fuel cost adjustments will be made to provide additional compensation to the Contractor, or a credit to the Department, for fluctuations in fuel prices when optioned by the Contractor. The bidder shall indicate with their bid whether or not this special provision will be part of the contract. Failure to indicate "Yes" for any category of work will make that category of work exempt from fuel cost adjustment.

General. The fuel cost adjustment shall apply to contract pay items as grouped by category. The adjustment shall only apply to those categories of work checked "Yes", and only when the cumulative plan quantities for a category exceed the required threshold. Adjustments to work items in a category, either up or down, and extra work paid for by agreed unit price will be subject to fuel cost adjustment only when the category representing the added work was subject to the fuel cost adjustment. Extra work paid for at a lump sum price or by force account will not be subject to fuel cost adjustment. Category descriptions and thresholds for application and the fuel usage factors which are applicable to each are as follows:

(a) Categories of Work.

- (1) Category A: Earthwork. Contract pay items performed under Sections 202, 204, and 206 including any modified standard or nonstandard items where the character of the work to be performed is considered earthwork. The cumulative total of all applicable item plan quantities shall exceed 25,000 cu yd (20,000 cu m). Included in the fuel usage factor is a weighted average 0.10 gal/cu yd (0.50 liters/cu m) factor for trucking.
- (2) Category B: Subbases and Aggregate Base Courses. Contract pay items constructed under Sections 311, 312 and 351 including any modified standard or nonstandard items where the character of the work to be performed is considered construction of a subbase or aggregate, stabilized or modified base course. The cumulative total of all applicable item plan quantities shall exceed 5000 tons (4500 metric tons). Included in the fuel usage factor is a 0.60 gal/ton (2.50 liters/metric ton) factor for trucking.
- (3) Category C: Hot-Mix Asphalt (HMA) Bases, Pavements and Shoulders. Contract pay items constructed under Sections 355, 406, 407 and 482 including any modified standard or nonstandard items where the character of the work to be performed is considered HMA bases, pavements and shoulders. The cumulative total of all applicable item plan quantities shall exceed 5000 tons (4500 metric tons). Included in the fuel usage factor is 0.60 gal/ton (2.50 liters/metric ton) factor for trucking.
- (4) Category D: Portland Cement Concrete (PCC) Bases, Pavements and Shoulders. Contract pay items constructed under Sections 353, 420, 421 and 483 including any modified standard or nonstandard items where the character of the work to be performed is considered PCC base, pavement or shoulder. The cumulative total of all applicable item plan quantities shall exceed 7500 sq yd (6000 sq m). Included in the fuel usage factor is 1.20 gal/cu yd (5.94 liters/cu m) factor for trucking.
- (5) Category E: Structures. Structure items having a cumulative bid price that exceeds \$250,000 for pay items constructed under Sections 502, 503, 504, 505, 512, 516 and

540 including any modified standard or nonstandard items where the character of the work to be performed is considered structure work when similar to that performed under these sections and not included in categories A through D.

(b) Fuel Usage Factors.

English Units		
Category	Factor	Units
A - Earthwork	0.34	gal / cu yd
B – Subbase and Aggregate Base courses	0.62	gal / ton
C – HMA Bases, Pavements and Shoulders	1.05	gal / ton
D – PCC Bases, Pavements and Shoulders	2.53	gal / cu yd
E – Structures	8.00	gal / \$1000
Metric Units		
Category	Factor	Units
A - Earthwork	1.68	liters / cu m
B – Subbase and Aggregate Base courses	2.58	liters / metric ton
C – HMA Bases, Pavements and Shoulders	4.37	liters / metric ton
D – PCC Bases, Pavements and Shoulders	12.52	liters / cu m
E – Structures	30.28	liters / \$1000

(c) Quantity Conversion Factors.

Category	Conversion	Factor
B	sq yd to ton	0.057 ton / sq yd / in depth
	sq m to metric ton	0.00243 metric ton / sq m / mm depth
C	sq yd to ton	0.056 ton / sq yd / in depth
	sq m to metric ton	0.00239 m ton / sq m / mm depth
D	sq yd to cu yd	0.028 cu yd / sq yd / in depth
	sq m to cu m	0.001 cu m / sq m / mm depth

Method of Adjustment. Fuel cost adjustments will be computed as follows.

$$CA = (FPI_P - FPI_L) \times FUF \times Q$$

- Where: CA = Cost Adjustment, \$
 FPI_P = Fuel Price Index, as published by the Department for the month the work is performed, \$/gal (\$/liter)
 FPI_L = Fuel Price Index, as published by the Department for the month prior to the letting for work paid for at the contract price; or for the month the agreed unit price letter is submitted by the Contractor for extra work paid for by agreed unit price, \$/gal (\$/liter)
 FUF = Fuel Usage Factor in the pay item(s) being adjusted
 Q = Authorized construction Quantity, tons (metric tons) or cu yd (cu m)

The entire FUF indicated in paragraph (b) will be used regardless of use of trucking to perform the work.

Basis of Payment. Fuel cost adjustments may be positive or negative but will only be made when there is a difference between the FPI_L and FPI_P in excess of five percent, as calculated by:

$$\text{Percent Difference} = \{(FPI_L - FPI_P) \div FPI_L\} \times 100$$

Fuel cost adjustments will be calculated for each calendar month in which applicable work is performed; and will be paid or deducted when all other contract requirements for the items of work are satisfied. The adjustments shall not apply during contract time subject to liquidated damages for completion of the entire contract.

HOT-MIX ASPHALT (BDE)

Effective: January 1, 2024

Revise the second paragraph of Articles 1030.07(a)(11) and 1030.08(a)(9) of the Standard Specifications to read:

“When establishing the target density, the HMA maximum theoretical specific gravity (G_{mm}) will be based on the running average of four available Department test results for that project. If less than four G_{mm} test results are available, an average of all available Department test results for that project will be used. The initial G_{mm} will be the last available Department test result from a QMP project. If there is no available Department test result from a QMP project, the Department mix design verification test result will be used as the initial G_{mm} .”

In the Supplemental Specifications, replace the revision for the end of the third paragraph of Article 1030.09(h)(2) with the following:

“When establishing the target density, the HMA maximum theoretical specific gravity (G_{mm}) will be the Department mix design verification test result.”

Revise the tenth paragraph of Article 1030.10 of the Standard Specifications to read:

“Production is not required to stop after a test strip has been constructed.”

HOT-MIX ASPHALT – LONGITUDINAL JOINT SEALANT (BDE)

Effective: November 1, 2022

Revised: August 1, 2023

Add the following after the second sentence in the eighth paragraph of Article 406.06(h)(2) of the Standard Specifications:

“If rain is forecasted and traffic is to be on the LJS or if pickup/tracking of the LJS material is likely, the LJS shall be covered immediately following its application with FA 20 fine aggregate mechanically spread uniformly at a rate of 1.5 ± 0.5 lb/sq yd (0.75 ± 0.25 kg/sq m). Fine aggregate landing outside of the LJS shall be removed prior to application of tack coat.”

Add the following after the first sentence in the ninth paragraph of Article 406.06(h)(2) of the Standard Specifications:

“LJS half-width shall be applied at a width of 9 ± 1 in. (225 ± 25 mm) in the immediate lane to be placed with the outside edge flush with the joint of the next HMA lift. The vertical face of any longitudinal joint remaining in place shall also be coated.”

Add the following after the eleventh paragraph of Article 406.06(h)(2) of the Standard Specifications:

“LJS Half-Width Application Rate, lb/ft (kg/m) ^{1/}			
Lift Thickness, in. (mm)	Coarse Graded Mixture (IL-19.0, IL-19.0L, IL-9.5, IL-9.5L, IL-4.75)	Fine Graded Mixture (IL-9.5FG)	SMA Mixture (SMA-9.5, SMA-12.5)
$\frac{3}{4}$ (19)	0.44 (0.66)		
1 (25)	0.58 (0.86)		
1 $\frac{1}{4}$ (32)	0.66 (0.98)	0.44 (0.66)	
1 $\frac{1}{2}$ (38)	0.74 (1.10)	0.48 (0.71)	0.63 (0.94)
1 $\frac{3}{4}$ (44)	0.82 (1.22)	0.52 (0.77)	0.69 (1.03)
2 (50)	0.90 (1.34)	0.56 (0.83)	0.76 (1.13)
$\geq 2 \frac{1}{4}$ (60)	0.98 (1.46)		

1/ The application rate includes a surface demand for liquid. The thickness of the LJS may taper from the center of the application to a lesser thickness on the edge of the application, provided the correct width and application rate are maintained.”

Revise the second paragraph of Article 406.13(b) of the Standard Specifications to read:

“Aggregate for covering tack, LJS, or FLS will not be measured for payment.”

Add the following to the end of the second paragraph of Article 406.14 of the Standard Specifications:

“Longitudinal joint sealant (LJS) half-width will be paid for at the contract unit price per foot (meter) for LONGITUDINAL JOINT SEALANT, HALF-WIDTH.”

PERFORMANCE GRADED ASPHALT BINDER (BDE)

Effective: January 1, 2023

Revise Article 1032.05 of the Standard Specifications to read:

“1032.05 Performance Graded Asphalt Binder. These materials will be accepted according to the Bureau of Materials Policy Memorandum, “Performance Graded Asphalt Binder Qualification Procedure.” The Department will maintain a qualified producer list. These materials shall be free from water and shall not foam when heated to any temperature below the actual flash point. Air blown asphalt, recycle engine oil bottoms (ReOB), and polyphosphoric acid (PPA) modification shall not be used.

When requested, producers shall provide the Engineer with viscosity/temperature relationships for the performance graded asphalt binders delivered and incorporated in the work.

- (a) Performance Graded (PG) Asphalt Binder. The asphalt binder shall meet the requirements of AASHTO M 320, Table 1 “Standard Specification for Performance Graded Asphalt Binder” for the grade shown on the plans and the following.

Test	Parameter
Small Strain Parameter (AASHTO PP 113) BBR, ΔT_c , 40 hrs PAV (40 hrs continuous or 2 PAV at 20 hrs)	-5 °C min.

- (b) Modified Performance Graded (PG) Asphalt Binder. The asphalt binder shall meet the requirements of AASHTO M 320, Table 1 “Standard Specification for Performance Graded Asphalt Binder” for the grade shown on the plans.

Asphalt binder modification shall be performed at the source, as defined in the Bureau of Materials Policy Memorandum, “Performance Graded Asphalt Binder Qualification Procedure.”

Modified asphalt binder shall be safe to handle at asphalt binder production and storage temperatures or HMA construction temperatures. Safety Data Sheets (SDS) shall be provided for all asphalt modifiers.

- (1) Polymer Modification (SB/SBS or SBR). Elastomers shall be added to the base asphalt binder to achieve the specified performance grade and shall be either a styrene-butadiene diblock, triblock copolymer without oil extension, or a styrene-butadiene rubber. The polymer modified asphalt binder shall be smooth, homogeneous, and be according to the requirements shown in Table 1 or 2 for the grade shown on the plans.

Table 1 - Requirements for Styrene-Butadiene Copolymer (SB/SBS) Modified Asphalt Binders		
Test	Asphalt Grade SB/SBS PG 64-28 SB/SBS PG 70-22	Asphalt Grade SB/SBS PG 64-34 SB/SBS PG 70-28 SB/SBS PG 76-22 SB/SBS PG 76-28
Separation of Polymer ITP, "Separation of Polymer from Asphalt Binder" Difference in °F (°C) of the softening point between top and bottom portions	4 (2) max.	4 (2) max.
TESTS ON RESIDUE FROM ROLLING THIN FILM OVEN TEST (AASHTO T 240)		
Elastic Recovery ASTM D 6084, Procedure A, 77 °F (25 °C), 100 mm elongation, %	60 min.	70 min.

Table 2 - Requirements for Styrene-Butadiene Rubber (SBR) Modified Asphalt Binders		
Test	Asphalt Grade SBR PG 64-28 SBR PG 70-22	Asphalt Grade SB/SBS PG 64-34 SB/SBS PG 70-28 SBR PG 76-22 SBR PG 76-28
Separation of Polymer ITP, "Separation of Polymer from Asphalt Binder" Difference in °F (°C) of the softening point between top and bottom portions	4 (2) max.	4 (2) max.
Toughness ASTM D 5801, 77 °F (25 °C), 20 in./min. (500 mm/min.), in.-lbs (N-m)	110 (12.5) min.	110 (12.5) min.
Tenacity ASTM D 5801, 77 °F (25 °C), 20 in./min. (500 mm/min.), in.-lbs (N-m)	75 (8.5) min.	75 (8.5) min.
TESTS ON RESIDUE FROM ROLLING THIN FILM OVEN TEST (AASHTO T 240)		
Elastic Recovery ASTM D 6084, Procedure A, 77 °F (25 °C), 100 mm elongation, %	40 min.	50 min.

- (2) Ground Tire Rubber (GTR) Modification. GTR modification is the addition of recycled ground tire rubber to liquid asphalt binder to achieve the specified performance grade. GTR shall be produced from processing automobile and/or truck tires by the ambient grinding method or micronizing through a cryogenic process. GTR shall not exceed 1/16 in. (2 mm) in any dimension and shall not contain free metal particles, moisture that would cause foaming of the asphalt, or other foreign materials. A mineral powder (such as talc) meeting the requirements of AASHTO M 17 may be added, up to a

maximum of four percent by weight of GTR to reduce sticking and caking of the GTR particles. When tested in accordance with Illinois Modified AASHTO T 27 “Standard Method of Test for Sieve Analysis of Fine and Coarse Aggregates” or AASHTO PP 74 “Standard Practice for Determination of Size and Shape of Glass Beads Used in Traffic Markings by Means of Computerized Optical Method”, a 50 g sample of the GTR shall conform to the following gradation requirements.

Sieve Size	Percent Passing
No. 16 (1.18 mm)	100
No. 30 (600 μm)	95 ± 5
No. 50 (300 μm)	> 20

GTR modified asphalt binder shall be tested for rotational viscosity according to AASHTO T 316 using spindle S27. GTR modified asphalt binder shall be tested for original dynamic shear and RTFO dynamic shear according to AASHTO T 315 using a gap of 2 mm.

The GTR modified asphalt binder shall meet the requirements of Table 3.

Table 3 - Requirements for Ground Tire Rubber (GTR) Modified Asphalt Binders		
Test	Asphalt Grade GTR PG 64-28 GTR PG 70-22	Asphalt Grade GTR PG 76-22 GTR PG 76-28 GTR PG 70-28
TESTS ON RESIDUE FROM ROLLING THIN FILM OVEN TEST (AASHTO T 240)		
Elastic Recovery ASTM D 6084, Procedure A, 77 °F (25 °C), 100 mm elongation, %	60 min.	70 min.

- (3) Softener Modification (SM). Softener modification is the addition of organic compounds, such as engineered flux, bio-oil blends, modified vegetable oils, glycol amines, and fatty acid derivatives, to the base asphalt binder to achieve the specified performance grade. Softeners shall be dissolved, dispersed, or reacted in the asphalt binder to enhance its performance and shall remain compatible with the asphalt binder with no separation. Softeners shall not be added to modified PG asphalt binder as defined in Articles 1032.05(b)(1) or 1032.05(b)(2).

An Attenuated Total Reflectance-Fourier Transform Infrared spectrum (ATR-FTIR) shall be collected for both the softening compound as well as the softener modified asphalt binder at the dose intended for qualification. The ATR-FTIR spectra shall be collected on unaged softener modified binder, 20-hour Pressurized Aging Vessel (PAV) aged softener modified binder, and 40-hour PAV aged softener modified binder. The ATR-FTIR shall be collected in accordance with Illinois Test Procedure 601. The electronic files spectral files (in one of the following extensions or equivalent: *.SPA, *.SPG, *.IRD, *.IFG, *.CSV, *.SP, *.IRS, *.GAML, *. [0-9], *.IGM, *.ABS, *.DRT, *.SBM, *.RAS) shall be submitted to the Central Bureau of Materials.

Softener modified asphalt binders shall meet the requirements in Table 4.

Table 4 - Requirements for Softener Modified Asphalt Binders	
Test	Asphalt Grade
Small Strain Parameter (AASHTO PP 113) BBR, ΔT_c , 40 hrs PAV (40 hrs continuous or 2 PAV at 20 hrs)	-5°C min.
Large Strain Parameter (Illinois Modified AASHTO T 391) DSR/LAS Fatigue Property, $\Delta G^* _{peak}$, 40 hrs PAV (40 hrs continuous or 2 PAV at 20 hrs)	≥ 54 %

The following grades may be specified as tack coats.

Asphalt Grade	Use
PG 58-22, PG 58-28, PG 64-22	Tack Coat"

Revise Article 1031.06(c)(1) and 1031.06(c)(2) of the Standard Specifications to read:

“(1) RAP/RAS. When RAP is used alone or RAP is used in conjunction with RAS, the percentage of virgin ABR shall not exceed the amounts listed in the following table.

HMA Mixtures - RAP/RAS Maximum ABR % ^{1/2/}			
Ndesign	Binder	Surface	Polymer Modified Binder or Surface ^{3/}
30	30	30	10
50	25	15	10
70	15	10	10
90	10	10	10

- 1/ For Low ESAL HMA shoulder and stabilized subbase, the RAP/RAS ABR shall not exceed 50 percent of the mixture.
- 2/ When RAP/RAS ABR exceeds 20 percent, the high and low virgin asphalt binder grades shall each be reduced by one grade (i.e. 25 percent ABR would require a virgin asphalt binder grade of PG 64-22 to be reduced to a PG 58-28).
- 3/ The maximum ABR percentages for ground tire rubber (GTR) modified mixes shall be equivalent to the percentages specified for SBS/SBR polymer modified mixes.

- (2) FRAP/RAS. When FRAP is used alone or FRAP is used in conjunction with RAS, the percentage of virgin asphalt binder replacement shall not exceed the amounts listed in the following table.

HMA Mixtures - FRAP/RAS Maximum ABR % ^{1/2/}			
Ndesign	Binder	Surface	Polymer Modified Binder or Surface ^{3/}
30	55	45	15
50	45	40	15
70	45	35	15
90	45	35	15
SMA	--	--	25
IL-4.75	--	--	35

- 1/ For Low ESAL HMA shoulder and stabilized subbase, the FRAP/RAS ABR shall not exceed 50 percent of the mixture.
- 2/ When FRAP/RAS ABR exceeds 20 percent for all mixes, the high and low virgin asphalt binder grades shall each be reduced by one grade (i.e. 25 percent ABR would require a virgin asphalt binder grade of PG 64-22 to be reduced to a PG 58-28).
- 3/ The maximum ABR percentages for GTR modified mixes shall be equivalent to the percentages specified for SBS/SBR polymer modified mixes.”

Add the following to the end of Note 2 of Article 1030.03 of the Standard Specifications.

“A dedicated storage tank for the ground tire rubber (GTR) modified asphalt binder shall be provided. This tank shall be capable of providing continuous mechanical mixing throughout and/or recirculation of the asphalt binder to provide a uniform mixture. The tank shall be heated and capable of maintaining the temperature of the asphalt binder at 300 °F to 350 °F (149 °C to 177 °C). The asphalt binder metering systems of dryer drum plants shall be calibrated with the actual GTR modified asphalt binder material with an accuracy of ±0.40 percent.”

PORTLAND CEMENT CONCRETE (BDE)

Effective: August 1, 2023

Revise the second paragraph of Article 1103.03(a)(4) the Standard Specifications to read:

“The dispenser system shall provide a visual indication that the liquid admixture is actually entering the batch, such as via a transparent or translucent section of tubing or by independent check with an integrated secondary metering device. If approved by the Engineer, an alternate indicator may be used for admixtures dosed at rates of 25 oz/cwt (1630 mL/100 kg) or greater, such as accelerating admixtures, corrosion inhibitors, and viscosity modifying admixtures.”

REMOVAL AND DISPOSAL OF REGULATED SUBSTANCES (BDE)

Effective: January 1, 2024

Revise the first paragraph of Article 669.04 of the Standard Specifications to read:

“669.04 Regulated Substances Monitoring. Regulated substances monitoring includes environmental observation and field screening during regulated substances management activities. The excavated soil and groundwater within the work areas shall be managed as either uncontaminated soil, hazardous waste, special waste, or non-special waste.

As part of the regulated substances monitoring, the monitoring personnel shall perform and document the applicable duties listed on form BDE 2732 “Regulated Substances Monitoring Daily Record (RSMDR)”.

Revise the first two sentences of the nineteenth paragraph of Article 669.05 of the Standard Specifications to read:

“The Contractor shall coordinate waste disposal approvals with the disposal facility and provide the specific analytical testing requirements of that facility. The Contractor shall make all arrangements for collection, transportation, and analysis of landfill acceptance testing.”

Revise the last paragraph of Article 669.05 of the Standard Specifications to read:

“The Contractor shall select a permitted landfill facility or CCDD/USFO facility meeting the requirements of 35 Ill. Admin. Code Parts 810-814 or Part 1100, respectively. The Department will review and approve or reject the facility proposed by the Contractor based upon information provided in BDE 2730. The Contractor shall verify whether the selected facility is compliant with those applicable standards as mandated by their permit and whether the facility is presently, has previously been, or has never been, on the United States Environmental Protection Agency (U.S. EPA) National Priorities List or the Resource Conservation and Recovery Act (RCRA) List of Violating Facilities. The use of a Contractor selected facility shall in no manner delay the construction schedule or alter the Contractor's responsibilities as set forth.”

Revise the first paragraph of Article 669.07 of the Standard Specifications to read:

“669.07 Temporary Staging. Soil classified according to Articles 669.05(a)(2), (b)(1), or (c) may be temporarily staged at the Contractor's option.

Topsoil for re-use as final cover which has been field screened and found not to exhibit PID readings over daily background readings as documented on the BDE 2732, visual staining or odors, and is classified according to Articles 669.05(a)(2), (a)(3), (a)(4), (b)(1), or (c) may be temporarily staged at the Contractor's option.

All other soil classified according to Articles 669.05(a)(1), (a)(3), (a)(4), (a)(5), (a)(6), or (b)(2) shall be managed and disposed of without temporary staging to the greatest extent practicable. If circumstances beyond the Contractor's control require temporary staging of these latter materials, the Contractor shall request approval from the Engineer in writing.”

Add the following paragraph after the sixth paragraph of Article 669.11 of the Standard Specifications.

“The sampling and testing of effluent water derived from dewatering discharges for priority pollutants volatile organic compounds (VOCs), priority pollutants semi-volatile organic compounds (SVOCs), or priority pollutants metals, will be paid for at the contract unit price per each for VOCS GROUNDWATER ANALYSIS using EPA Method 8260B, SVOCs GROUNDWATER ANALYSIS using EPA Method 8270C, or RCRA METALS GROUNDWATER ANALYSIS using EPA Methods 6010B and 7471A. This price shall include transporting the sample from the job site to the laboratory.”

SEEDING (BDE)

Effective: November 1, 2022

Revise Article 250.07 of the Standard Specifications to read:

“**250.07 Seeding Mixtures.** The classes of seeding mixtures and combinations of mixtures will be designated in the plans.

When an area is to be seeded with two or more seeding classes, those mixtures shall be applied separately on the designated area within a seven day period. Seeding shall occur prior to placement of mulch cover. A Class 7 mixture can be applied at any time prior to applying any seeding class or added to them and applied at the same time.

TABLE 1 - SEEDING MIXTURES		
Class - Type	Seeds	lb/acre (kg/hectare)
1 Lawn Mixture 1/	Kentucky Bluegrass	100 (110)
	Perennial Ryegrass	60 (70)
	<i>Festuca rubra</i> ssp. <i>rubra</i> (Creeping Red Fescue)	40 (50)
1A Salt Tolerant Lawn Mixture 1/	Kentucky Bluegrass	60 (70)
	Perennial Ryegrass	20 (20)
	<i>Festuca rubra</i> ssp. <i>rubra</i> (Creeping Red Fescue)	20 (20)
	<i>Festuca brevipilla</i> (Hard Fescue)	20 (20)
	<i>Puccinellia distans</i> (Fults Saltgrass or Salty Alkaligrass)	60 (70)
1B Low Maintenance Lawn Mixture 1/	Turf-Type Fine Fescue 3/	150 (170)
	Perennial Ryegrass	20 (20)
	Red Top	10 (10)
	<i>Festuca rubra</i> ssp. <i>rubra</i> (Creeping Red Fescue)	20 (20)
2 Roadside Mixture 1/	<i>Lolium arundinaceum</i> (Tall Fescue)	100 (110)
	Perennial Ryegrass	50 (55)
	<i>Festuca rubra</i> ssp. <i>rubra</i> (Creeping Red Fescue)	40 (50)
	Red Top	10 (10)
2A Salt Tolerant Roadside Mixture 1/	<i>Lolium arundinaceum</i> (Tall Fescue)	60 (70)
	Perennial Ryegrass	20 (20)
	<i>Festuca rubra</i> ssp. <i>rubra</i> (Creeping Red Fescue)	30 (20)
	<i>Festuca brevipilla</i> (Hard Fescue)	30 (20)
	<i>Puccinellia distans</i> (Fults Saltgrass or Salty Alkaligrass)	60 (70)
3 Northern Illinois Slope Mixture 1/	<i>Elymus canadensis</i> (Canada Wild Rye) 5/	5 (5)
	Perennial Ryegrass	20 (20)
	Alsike Clover 4/	5 (5)
	<i>Desmanthus illinoensis</i> (Illinois Bundleflower) 4/ 5/	2 (2)
	<i>Schizachyrium scoparium</i> (Little Bluestem) 5/	12 (12)
	<i>Bouteloua curtipendula</i> (Side-Oats Grama) 5/	10 (10)
	<i>Puccinellia distans</i> (Fults Saltgrass or Salty Alkaligrass)	30 (35)
	Oats, Spring	50 (55)
	Slender Wheat Grass 5/	15 (15)
	Buffalo Grass 5/ 7/	5 (5)
	3A Southern Illinois Slope Mixture 1/	Perennial Ryegrass
<i>Elymus canadensis</i> (Canada Wild Rye) 5/		20 (20)
<i>Panicum virgatum</i> (Switchgrass) 5/		10 (10)
<i>Schizachyrium scoparium</i> (Little Blue Stem) 5/		12 (12)
<i>Bouteloua curtipendula</i> (Side-Oats Grama) 5/		10 (10)
<i>Dalea candida</i> (White Prairie Clover) 4/ 5/		5 (5)
<i>Rudbeckia hirta</i> (Black-Eyed Susan) 5/		5 (5)
Oats, Spring		50 (55)

Class – Type	Seeds	lb/acre (kg/hectare)
4 Native Grass 2/ 6/	<i>Andropogon gerardi</i> (Big Blue Stem) 5/	4 (4)
	<i>Schizachyrium scoparium</i> (Little Blue Stem) 5/	5 (5)
	<i>Bouteloua curtipendula</i> (Side-Oats Grama) 5/	5 (5)
	<i>Elymus canadensis</i> (Canada Wild Rye) 5/	1 (1)
	<i>Panicum virgatum</i> (Switch Grass) 5/	1 (1)
	<i>Sorghastrum nutans</i> (Indian Grass) 5/	2 (2)
	Annual Ryegrass	25 (25)
	Oats, Spring	25 (25)
	Perennial Ryegrass	15 (15)
	4A Low Profile Native Grass 2/ 6/	<i>Schizachyrium scoparium</i> (Little Blue Stem) 5/
<i>Bouteloua curtipendula</i> (Side-Oats Grama) 5/		5 (5)
<i>Elymus canadensis</i> (Canada Wild Rye) 5/		1 (1)
<i>Sporobolus heterolepis</i> (Prairie Dropseed) 5/		0.5 (0.5)
Annual Ryegrass		25 (25)
Oats, Spring		25 (25)
Perennial Ryegrass		15 (15)
4B Wetland Grass and Sedge Mixture 2/ 6/		Annual Ryegrass
	Oats, Spring	25 (25)
	Wetland Grasses (species below) 5/	6 (6)
<u>Species:</u>	<u>% By Weight</u>	
<i>Calamagrostis canadensis</i> (Blue Joint Grass)	12	
<i>Carex lacustris</i> (Lake-Bank Sedge)	6	
<i>Carex slipata</i> (Awl-Fruited Sedge)	6	
<i>Carex stricta</i> (Tussock Sedge)	6	
<i>Carex vulpinoidea</i> (Fox Sedge)	6	
<i>Eleocharis acicularis</i> (Needle Spike Rush)	3	
<i>Eleocharis obtusa</i> (Blunt Spike Rush)	3	
<i>Glyceria striata</i> (Fowl Manna Grass)	14	
<i>Juncus effusus</i> (Common Rush)	6	
<i>Juncus tenuis</i> (Slender Rush)	6	
<i>Juncus torreyi</i> (Torrey's Rush)	6	
<i>Leersia oryzoides</i> (Rice Cut Grass)	10	
<i>Scirpus acutus</i> (Hard-Stemmed Bulrush)	3	
<i>Scirpus atrovirens</i> (Dark Green Rush)	3	
<i>Bolboschoenus fluviatilis</i> (River Bulrush)	3	
<i>Schoenoplectus tabernaemontani</i> (Softstem Bulrush)	3	
<i>Spartina pectinata</i> (Cord Grass)	4	

Class – Type	Seeds	lb/acre (kg/hectare)
5	Forb with Annuals Mixture (Below)	1 (1)
	Annuals Mixture 2/ 5/ 6/ Forb Mixture (Below)	10 (10)
	Annuals Mixture - Mixture not exceeding 25 % by weight of any one species, of the following:	
	<i>Coreopsis lanceolata</i> (Sand Coreopsis)	
	<i>Leucanthemum maximum</i> (Shasta Daisy)	
	<i>Gaillardia pulchella</i> (Blanket Flower)	
	<i>Ratibida columnifera</i> (Prairie Coneflower)	
	<i>Rudbeckia hirta</i> (Black-Eyed Susan)	
	Forb Mixture - Mixture not exceeding 5 % by weight PLS of any one species, of the following:	
	<i>Amorpha canescens</i> (Lead Plant) 4/	
	<i>Anemone cylindrica</i> (Thimble Weed)	
	<i>Asclepias tuberosa</i> (Butterfly Weed)	
	<i>Aster azureus</i> (Sky Blue Aster)	
	<i>Symphotrichum leave</i> (Smooth Aster)	
	<i>Aster novae-angliae</i> (New England Aster)	
	<i>Baptisia leucantha</i> (White Wild Indigo) 4/	
	<i>Coreopsis palmata</i> (Prairie Coreopsis)	
	<i>Echinacea pallida</i> (Pale Purple Coneflower)	
	<i>Eryngium yuccifolium</i> (Rattlesnake Master)	
	<i>Helianthus mollis</i> (Downy Sunflower)	
	<i>Heliopsis helianthoides</i> (Ox-Eye)	
	<i>Liatris aspera</i> (Rough Blazing Star)	
	<i>Liatris pycnostachya</i> (Prairie Blazing Star)	
	<i>Monarda fistulosa</i> (Prairie Bergamot)	
	<i>Parthenium integrifolium</i> (Wild Quinine)	
	<i>Dalea candida</i> (White Prairie Clover) 4/	
	<i>Dalea purpurea</i> (Purple Prairie Clover) 4/	
	<i>Physostegia virginiana</i> (False Dragonhead)	
	<i>Potentilla arguta</i> (Prairie Cinquefoil)	
	<i>Ratibida pinnata</i> (Yellow Coneflower)	
	<i>Rudbeckia subtomentosa</i> (Fragrant Coneflower)	
	<i>Silphium laciniatum</i> (Compass Plant)	
	<i>Silphium terebinthinaceum</i> (Prairie Dock)	
	<i>Oligoneuron rigidum</i> (Rigid Goldenrod)	
	<i>Tradescantia ohiensis</i> (Spiderwort)	
	<i>Veronicastrum virginicum</i> (Culver's Root)	

Class – Type	Seeds	lb/acre (kg/hectare)
5A Large Flower Native Forb Mixture 2/ 5/ 6/	Forb Mixture (see below)	5 (5)
	<u>Species:</u>	<u>% By Weight</u>
	<i>Aster novae-angliae</i> (New England Aster)	5
	<i>Echinacea pallida</i> (Pale Purple Coneflower)	10
	<i>Helianthus mollis</i> (Downy Sunflower)	10
	<i>Heliopsis helianthoides</i> (Ox-Eye)	10
	<i>Liatris pycnostachya</i> (Prairie Blazing Star)	10
	<i>Ratibida pinnata</i> (Yellow Coneflower)	5
	<i>Rudbeckia hirta</i> (Black-Eyed Susan)	10
	<i>Silphium laciniatum</i> (Compass Plant)	10
	<i>Silphium terebinthinaceum</i> (Prairie Dock)	20
	<i>Oligoneuron rigidum</i> (Rigid Goldenrod)	10
5B Wetland Forb 2/ 5/ 6/	Forb Mixture (see below)	2 (2)
	<u>Species:</u>	<u>% By Weight</u>
	<i>Acorus calamus</i> (Sweet Flag)	3
	<i>Angelica atropurpurea</i> (Angelica)	6
	<i>Asclepias incarnata</i> (Swamp Milkweed)	2
	<i>Aster puniceus</i> (Purple Stemmed Aster)	10
	<i>Bidens cernua</i> (Beggarticks)	7
	<i>Eutrochium maculatum</i> (Spotted Joe Pye Weed)	7
	<i>Eupatorium perfoliatum</i> (Boneset)	7
	<i>Helenium autumnale</i> (Autumn Sneezeweed)	2
	<i>Iris virginica shrevei</i> (Blue Flag Iris)	2
	<i>Lobelia cardinalis</i> (Cardinal Flower)	5
	<i>Lobelia siphilitica</i> (Great Blue Lobelia)	5
	<i>Lythrum alatum</i> (Winged Loosestrife)	2
	<i>Physostegia virginiana</i> (False Dragonhead)	5
	<i>Persicaria pensylvanica</i> (Pennsylvania Smartweed)	10
	<i>Persicaria lapathifolia</i> (Curlytop Knotweed)	10
	<i>Pycnanthemum virginianum</i> (Mountain Mint)	5
	<i>Rudbeckia laciniata</i> (Cut-leaf Coneflower)	5
	<i>Oligoneuron riddellii</i> (Riddell Goldenrod)	2
	<i>Sparganium eurycarpum</i> (Giant Burreed)	5
6 Conservation Mixture 2/ 6/	<i>Schizachyrium scoparium</i> (Little Blue Stem) 5/ <i>Elymus canadensis</i> (Canada Wild Rye) 5/ Buffalo Grass 5/ 7/ Vernal Alfalfa 4/ Oats, Spring	5 (5) 2 (2) 5 (5) 15 (15) 48 (55)
6A Salt Tolerant Conservation Mixture 2/ 6/	<i>Schizachyrium scoparium</i> (Little Blue Stem) 5/ <i>Elymus canadensis</i> (Canada Wild Rye) 5/ Buffalo Grass 5/ 7/ Vernal Alfalfa 4/ Oats, Spring <i>Puccinellia distans</i> (Fults Saltgrass or Salty Alkaligrass)	5 (5) 2 (2) 5 (5) 15 (15) 48 (55) 20 (20)
7 Temporary Turf Cover Mixture	Perennial Ryegrass Oats, Spring	50 (55) 64 (70)

Notes:

- 1/ Seeding shall be performed when the ambient temperature has been between 45 °F (7 °C) and 80 °F (27 °C) for a minimum of seven (7) consecutive days and is forecasted to be the same for the next five (5) days according to the National Weather Service.
- 2/ Seeding shall be performed in late fall through spring beginning when the ambient temperature has been below 45 °F (7 °C) for a minimum of seven (7) consecutive days and ending when the ambient temperature exceeds 80 °F (27 °C) according to the National Weather Service.
- 3/ Specific variety as shown in the plans or approved by the Engineer.
- 4/ Inoculation required.
- 5/ Pure Live Seed (PLS) shall be used.
- 6/ Fertilizer shall not be used.
- 7/ Seed shall be primed with KNO₃ to break dormancy and dyed to indicate such.

Seeding will be inspected after a period of establishment. The period of establishment shall be six (6) months minimum, but not to exceed nine (9) months. After the period of establishment, areas not exhibiting 75 percent uniform growth shall be interseeded or reseeded, as determined by the Engineer, at no additional cost to the Department.”

SOURCE OF SUPPLY AND QUALITY REQUIREMENTS (BDE)

Effective: January 2, 2023

Add the following to Article 106.01 of the Standard Specifications:

“The final manufacturing process for construction materials and the immediately preceding manufacturing stage for construction materials shall occur within the United States. Construction materials shall include an article, material, or supply that is or consists primarily of the following.

- (a) Non-ferrous metals;
- (b) Plastic and polymer-based products (including polyvinylchloride, composite building materials, and polymers used in fiber optic cables);
- (c) Glass (including optic glass);
- (d) Lumber;
- (e) Drywall.

Items consisting of two or more of the listed construction materials that have been combined through a manufacturing process, and items including at least one of the listed materials combined with a material that is not listed through a manufacturing process shall be exempt.”

SPEED DISPLAY TRAILER (BDE)

Effective: April 2, 2014

Revised: January 1, 2022

Revise the last paragraph of Article 701.11 of the Standard Specifications to read:

“When not being utilized to inform and direct traffic, sign trailers, speed display trailers, arrow boards, and portable changeable message boards shall be treated as nonoperating equipment.”

Add the following to Article 701.15 of the Standard Specifications:

“(m) Speed Display Trailer. A speed display trailer is used to enhance safety of the traveling public and workers in work zones by alerting drivers of their speed, thus deterring them from driving above the posted work zone speed limit.”

Add the following to Article 701.20 of the Standard Specifications:

“(k) When speed display trailers are shown on the Standard, this work will not be paid for separately but shall be considered as included in the cost of the Standard.

For all other speed display trailers, this work will be paid for at the contract unit price per calendar month or fraction thereof for each trailer as SPEED DISPLAY TRAILER.”

Add the following to Article 1106.02 of the Standard Specifications:

“(o) Speed Display Trailer. The speed display trailer shall consist of a LED speed indicator display with self-contained, one-direction radar mounted on an orange see-through trailer. The height of the display and radar shall be such that it will function and be visible when located behind concrete barrier.

The speed measurement shall be by radar and provide a minimum detection distance of 1000 ft (300 m). The radar shall have an accuracy of ± 1 mile per hour.

The speed indicator display shall face approaching traffic and shall have a sign legend of “YOUR SPEED” immediately above or below the speed display. The sign letters shall be between 5 and 8 in. (125 and 200 mm) in height. The digital speed display shall show two digits (00 to 99) in mph. The color of the changeable message legend shall be a yellow legend on a black background. The minimum height of the numerals shall be 18 in. (450 mm), and the nominal legibility distance shall be at least 750 ft (250 m).

The speed indicator display shall be equipped with a violation alert that flashes the displayed detected speed when the work zone posted speed limit is exceeded. The speed indicator shall have a maximum speed cutoff. On roadway facilities with a normal posted speed limit greater than or equal to 45 mph, the detected speeds of vehicles traveling more than 25 mph over the work zone speed limit shall not be displayed. On facilities with normal posted speed limit of less than 45 mph, the detected speeds of vehicles traveling more than 15 mph over the work zone speeds limit shall not be displayed. On any roadway facility if detected speeds are less than 25 mph, they shall not be displayed. The display shall include automatic dimming for nighttime operation.

The speed indicator measurement and display functions shall be equipped with the power supply capable of providing 24 hours of uninterrupted service.”

STEEL COST ADJUSTMENT (BDE)

Effective: April 2, 2004

Revised: January 1, 2022

Description. Steel cost adjustments will be made to provide additional compensation to the Contractor, or a credit to the Department, for fluctuations in steel prices when optioned by the Contractor. The bidder shall indicate with their bid whether or not this special provision will be part of the contract. Failure to indicate "Yes" for any item of work will make that item of steel exempt from steel cost adjustment.

Types of Steel Products. An adjustment will be made for fluctuations in the cost of steel used in the manufacture of the following items:

- Metal Piling (excluding temporary sheet piling)
- Structural Steel
- Reinforcing Steel

Other steel materials such as dowel bars, tie bars, welded reinforcement, guardrail, steel traffic signal and light poles, towers and mast arms, metal railings (excluding wire fence), and frames and grates will be subject to a steel cost adjustment when the pay items they are used in have a contract value of \$10,000 or greater.

The adjustments shall apply to the above items when they are part of the original proposed construction, or added as extra work and paid for by agreed unit prices. The adjustments shall not apply when the item is added as extra work and paid for at a lump sum price or by force account.

Documentation. Sufficient documentation shall be furnished to the Engineer to verify the following:

- (a) The dates and quantity of steel, in lb (kg), shipped from the mill to the fabricator.
- (b) The quantity of steel, in lb (kg), incorporated into the various items of work covered by this special provision. The Department reserves the right to verify submitted quantities.

Method of Adjustment. Steel cost adjustments will be computed as follows:

$$SCA = Q \times D$$

Where: SCA = steel cost adjustment, in dollars
Q = quantity of steel incorporated into the work, in lb (kg)
D = price factor, in dollars per lb (kg)

$$D = MPI_M - MPI_L$$

Where: MPI_M = The Materials Cost Index for steel as published by the Engineering News-Record for the month the steel is shipped from the mill. The indices will be converted from dollars per 100 lb to dollars per lb (kg).

MPI_L = The Materials Cost Index for steel as published by the Engineering News-Record for the month prior to the letting for work paid for at the contract price; or for the month the agreed unit price letter is submitted by the Contractor for extra work paid for by agreed unit price,. The indices will be converted from dollars per 100 lb to dollars per lb (kg).

The unit weights (masses) of steel that will be used to calculate the steel cost adjustment for the various items are shown in the attached table.

No steel cost adjustment will be made for any products manufactured from steel having a mill shipping date prior to the letting date.

If the Contractor fails to provide the required documentation, the method of adjustment will be calculated as described above; however, the MPI_M will be based on the date the steel arrives at the job site. In this case, an adjustment will only be made when there is a decrease in steel costs.

Basis of Payment. Steel cost adjustments may be positive or negative but will only be made when there is a difference between the MPI_L and MPI_M in excess of five percent, as calculated by:

$$\text{Percent Difference} = \{(MPI_L - MPI_M) \div MPI_L\} \times 100$$

Steel cost adjustments will be calculated by the Engineer and will be paid or deducted when all other contract requirements for the items of work are satisfied. Adjustments will only be made for fluctuations in the cost of the steel as described herein. No adjustment will be made for changes in the cost of manufacturing, fabrication, shipping, storage, etc.

The adjustments shall not apply during contract time subject to liquidated damages for completion of the entire contract.

Attachment

Item	Unit Mass (Weight)
Metal Piling (excluding temporary sheet piling)	
Furnishing Metal Pile Shells 12 in. (305 mm), 0.179 in. (3.80 mm) wall thickness)	23 lb/ft (34 kg/m)
Furnishing Metal Pile Shells 12 in. (305 mm), 0.250 in. (6.35 mm) wall thickness)	32 lb/ft (48 kg/m)
Furnishing Metal Pile Shells 14 in. (356 mm), 0.250 in. (6.35 mm) wall thickness)	37 lb/ft (55 kg/m)
Other piling	See plans
Structural Steel	See plans for weights (masses)
Reinforcing Steel	See plans for weights (masses)
Dowel Bars and Tie Bars	6 lb (3 kg) each
Welded Reinforcement	63 lb/100 sq ft (310 kg/sq m)
Guardrail	
Steel Plate Beam Guardrail, Type A w/steel posts	20 lb/ft (30 kg/m)
Steel Plate Beam Guardrail, Type B w/steel posts	30 lb/ft (45 kg/m)
Steel Plate Beam Guardrail, Types A and B w/wood posts	8 lb/ft (12 kg/m)
Steel Plate Beam Guardrail, Type 2	305 lb (140 kg) each
Steel Plate Beam Guardrail, Type 6	1260 lb (570 kg) each
Traffic Barrier Terminal, Type 1 Special (Tangent)	730 lb (330 kg) each
Traffic Barrier Terminal, Type 1 Special (Flared)	410 lb (185 kg) each
Steel Traffic Signal and Light Poles, Towers and Mast Arms	
Traffic Signal Post	11 lb/ft (16 kg/m)
Light Pole, Tenon Mount and Twin Mount, 30 - 40 ft (9 – 12 m)	14 lb/ft (21 kg/m)
Light Pole, Tenon Mount and Twin Mount, 45 - 55 ft (13.5 – 16.5 m)	21 lb/ft (31 kg/m)
Light Pole w/Mast Arm, 30 - 50 ft (9 – 15.2 m)	13 lb/ft (19 kg/m)
Light Pole w/Mast Arm, 55 - 60 ft (16.5 – 18 m)	19 lb/ft (28 kg/m)
Light Tower w/Luminaire Mount, 80 - 110 ft (24 – 33.5 m)	31 lb/ft (46 kg/m)
Light Tower w/Luminaire Mount, 120 - 140 ft (36.5 – 42.5 m)	65 lb/ft (97 kg/m)
Light Tower w/Luminaire Mount, 150 - 160 ft (45.5 – 48.5 m)	80 lb/ft (119 kg/m)
Metal Railings (excluding wire fence)	
Steel Railing, Type SM	64 lb/ft (95 kg/m)
Steel Railing, Type S-1	39 lb/ft (58 kg/m)
Steel Railing, Type T-1	53 lb/ft (79 kg/m)
Steel Bridge Rail	52 lb/ft (77 kg/m)
Frames and Grates	
Frame	250 lb (115 kg)
Lids and Grates	150 lb (70 kg)

SUBCONTRACTOR AND DBE PAYMENT REPORTING (BDE)

Effective: April 2, 2018

Add the following to Section 109 of the Standard Specifications.

“109.14 Subcontractor and Disadvantaged Business Enterprise Payment Reporting.
The Contractor shall report all payments made to the following parties:

- (a) first tier subcontractors;
- (b) lower tier subcontractors affecting disadvantaged business enterprise (DBE) goal credit;
- (c) material suppliers or trucking firms that are part of the Contractor’s submitted DBE utilization plan.

The report shall be made through the Department’s on-line subcontractor payment reporting system within 21 days of making the payment.”

SUBCONTRACTOR MOBILIZATION PAYMENTS (BDE)

Effective: November 2, 2017

Revised: April 1, 2019

Replace the second paragraph of Article 109.12 of the Standard Specifications with the following:

“This mobilization payment shall be made at least seven days prior to the subcontractor starting work. The amount paid shall be at the following percentage of the amount of the subcontract reported on form BC 260A submitted for the approval of the subcontractor’s work.

Value of Subcontract Reported on Form BC 260A	Mobilization Percentage
Less than \$10,000	25%
\$10,000 to less than \$20,000	20%
\$20,000 to less than \$40,000	18%
\$40,000 to less than \$60,000	16%
\$60,000 to less than \$80,000	14%
\$80,000 to less than \$100,000	12%
\$100,000 to less than \$250,000	10%
\$250,000 to less than \$500,000	9%
\$500,000 to \$750,000	8%
Over \$750,000	7%”

SUBMISSION OF PAYROLL RECORDS (BDE)

Effective: April 1, 2021

Revised: November 2, 2023

FEDERAL AID CONTRACTS. Revise the following section of Check Sheet #1 of the Recurring Special Provisions to read:

“STATEMENTS AND PAYROLLS

The payroll records shall include the worker’s name, social security number, last known address, telephone number, email address, classification(s) of work actually performed, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof), daily and weekly number of hours actually worked in total, deductions made, and actual wages paid.

The Contractor and each subcontractor shall submit certified payroll records to the Department each week from the start to the completion of their respective work, except that full social security numbers, last known addresses, telephone numbers, and email addresses shall not be included on weekly submittals. Instead, the payrolls need only include an identification number for each employee (e.g., the last four digits of the employee’s social security number). The submittals shall be made using LCPTracker Pro software. The software is web-based and can be accessed at <https://lcptracker.com/>. When there has been no activity during a work week, a payroll record shall still be submitted with the appropriate option (“No Work”, “Suspended”, or “Complete”) selected.”

STATE CONTRACTS. Revise Item 3 of Section IV of Check Sheet #5 of the Recurring Special Provisions to read:

- “3. Submission of Payroll Records. The Contractor and each subcontractor shall, no later than the 15th day of each calendar month, file a certified payroll for the immediately preceding month to the Illinois Department of Labor (IDOL) through the Illinois Prevailing Wage Portal in compliance with the State Prevailing Wage Act (820 ILCS 130). The portal can be found on the IDOL website at <https://www2.illinois.gov/idol/Laws-Rules/CONMED/Pages/Prevailing-Wage-Portal.aspx>. Payrolls shall be submitted in the format prescribed by the IDOL.

In addition to filing certified payroll(s) with the IDOL, the Contractor and each subcontractor shall certify and submit payroll records to the Department each week from the start to the completion of their respective work, except that full social security numbers shall not be included on weekly submittals. Instead, the payrolls shall include an identification number for each employee (e.g., the last four digits of the employee’s social security number). In addition, starting and ending times of work each day may be omitted from the payroll records submitted. The submittals shall be made using LCPTracker Pro software. The software is web-based and can be accessed at <https://lcptracker.com/>. When there has been no activity during a work week, a payroll record shall still be submitted with the appropriate option (“No Work”, “Suspended”, or “Complete”) selected.”

SURFACE TESTING OF PAVEMENTS – IRI (BDE)

Effective: January 1, 2021

Revised: January 1, 2023

Description. This work shall consist of testing the ride quality of the finished surface of pavement sections with new concrete pavement, PCC overlays, full-depth HMA, and HMA overlays with at least 2.25 in. (57 mm) total thickness of new HMA combined with either HMA binder or HMA surface removal, according to Illinois Test Procedure 701, “Ride Quality Testing Using the International Roughness Index (IRI)”. Work shall be according to Sections 406, 407, or 420 of the Standard Specifications, except as modified herein.

Hot-Mix Asphalt (HMA) Overlays

Add the following to Article 406.03 of the Standard Specifications:

“(n) Pavement Surface Grinding Equipment..... 1101.04”

Revise Article 406.11 of the Standard Specifications to read:

“**406.11 Surface Tests**. Prior to HMA overlay pavement improvements, the Engineer will measure the smoothness of the existing high-speed mainline pavement. The Contractor shall measure the smoothness of the finished high-speed mainline, low-speed mainline, and miscellaneous pavements after the pavement improvement is complete but within the same construction season. Testing shall be performed in the presence of the Engineer and according to Illinois Test Procedure 701. The pavement will be identified as high-speed mainline, low-speed mainline, or miscellaneous as follows.

(a) Test Sections.

- (1) High-Speed Mainline Pavement. High-speed mainline pavement consists of pavements, ramps, and loops with a posted speed limit greater than 45 mph. These sections shall be tested with an inertial profiling system (IPS).
- (2) Low-Speed Mainline Pavement. Low-speed mainline pavement consists of pavements, ramps, and loops with a posted speed limit of 45 mph or less. These sections shall be tested using a 16 ft (5 m) straightedge or with an IPS analyzed using the rolling 16 ft (5 m) straightedge simulation in ProVAL.
- (3) Miscellaneous Pavement. Miscellaneous pavement are segments that either cannot readily be tested by an IPS or conditions beyond the control of the Contractor preclude the achievement of smoothness levels typically achievable with mainline pavement construction. This may include the following examples or as determined by the Engineer.
 - a. Pavement on horizontal curves with a centerline radius of curvature of less than or equal to 1,000 ft (300 m) and the pavement within the superelevation transition of such curves;
 - b. Pavement on vertical curves having a length less than or equal to 200 ft (60 m) in combination with an algebraic change in tangent grade greater than or equal to 3 percent as may occur on urban ramps or other constricted-space facilities;
 - c. The first and last 50 ft (15 m) of a pavement section where the Contractor is not responsible for the adjoining surface;
 - d. Intersections and the 25 ft (7.6 m) before and after an intersection or end of radius return;
 - e. Variable width pavements;
 - f. Side street returns, to the end of radius return;
 - g. Crossovers;
 - h. Pavement connector for bridge approach slab;
 - i. Bridge approach slab;
 - j. Pavement that must be constructed in segments of 600 ft (180 m) or less;
 - k. Pavement within 25 ft (7.6 m) of manholes, utility structures, at-grade railroad crossings, or other appurtenances;
 - l. Turn lanes; and

- m. Pavement within 5 ft (1.5 m) of jobsite sampling locations for HMA volumetric testing that fall within the wheel path.

Miscellaneous pavement shall be tested using a 16 ft (5 m) straightedge.

- (4) International Roughness Index (IRI). An index computed from a longitudinal profile measurement using a quarter-car simulation at a simulation speed of 50 mph (80 km/h).
- (5) Mean Roughness Index (MRI). The average of the IRI values for the right and left wheel tracks.
- a. MRI_O . The MRI of the existing pavement prior to construction.
- b. MRI_I . The MRI value that warrants an incentive payment.
- c. MRI_F . The MRI value that warrants full payment.
- d. MRI_D . The MRI value that warrants a financial disincentive.
- (6) Areas of Localized Roughness (ALR). Isolated areas of roughness, which can cause significant increase in the calculated MRI for a given subplot.
- (7) Sublot. A continuous strip of pavement 0.1 mile (160 m) long and one lane wide. A partial subplot greater than or equal to 264 ft (80 m) will be subject to the same evaluation as a whole subplot. Partial sublots less than 264 ft (80 m) shall be included with the previous subplot for evaluation purposes.
- (b) Corrective Work. Corrective work shall be completed according to the following.
- (1) High-Speed Mainline Pavement. For high-speed mainline pavement, any 25 ft (7.6 m) interval with an ALR in excess of 200 in./mile (3,200 mm/km) will be identified by the Engineer and shall be corrected by the Contractor. Any subplot having a MRI greater than MRI_D , including ALR, shall be corrected to reduce the MRI to the MRI_F , or replaced at the Contractor's option.
- (2) Low-Speed Mainline Pavement. Surface variations in low-speed mainline pavement which exceed the 5/16 in. (8 mm) tolerance will be identified by the Engineer and shall be corrected by the Contractor.
- (3) Miscellaneous Pavements. Surface variations in miscellaneous pavement which exceed the 5/16 in. (8 mm) tolerance will be identified by the Engineer and shall be corrected by the Contractor.

Corrective work shall be completed with pavement surface grinding equipment or by removing and replacing the pavement. Corrective work shall be applied to the full lane width. When completed, the corrected area shall have uniform texture and appearance,

with the beginning and ending of the corrected area perpendicular to the centerline of the paved surface.

Upon completion of the corrective work, the surface of the subplot(s) shall be retested. The Contractor shall furnish the data and reports to the Engineer within 2 working days after corrections are made. If the MRI and/or ALR still do not meet the requirements, additional corrective work shall be performed.

Corrective work shall be at no additional cost to the Department.

- (c) Smoothness Assessments. Assessments will be paid to or deducted from the Contractor for each subplot of high-speed mainline pavement per the Smoothness Assessment Schedule. Assessments will be based on the MRI of each subplot prior to performing any corrective work unless the Contractor has chosen to remove and replace the pavement. For pavement that is replaced, assessments will be based on the MRI determined after replacement.

The upper MRI thresholds for high-speed mainline pavement are dependent on the MRI of the existing pavement before construction (MRI_0) and shall be determined as follows.

Upper MRI Thresholds ^{1/}	MRI Thresholds (High-Speed, HMA Overlay)	
	$MRI_0 \leq 125.0$ in./mile ($\leq 1,975$ mm/km)	$MRI_0 > 125.0$ in./mile ^{1/} ($> 1,975$ mm/km)
Incentive (MRI_I)	45.0 in./mile (710 mm/km)	$0.2 \times MRI_0 + 20$
Full Pay (MRI_F)	75.0 in./mile (1,190 mm/km)	$0.2 \times MRI_0 + 50$
Disincentive (MRI_D)	100.0 in./mile (1,975 mm/km)	$0.2 \times MRI_0 + 75$

1/ MRI_0 , MRI_I , MRI_F , and MRI_D shall be in in./mile for calculation.

Smoothness assessments for high-speed mainline pavement shall be determined as follows.

SMOOTHNESS ASSESSMENT SCHEDULE (High-Speed, HMA Overlay)	
Mainline Pavement MRI Range	Assessment Per Subplot ^{1/}
$MRI \leq MRI_I$	$+ (MRI_I - MRI) \times \$20.00$ ^{2/}
$MRI_I < MRI \leq MRI_F$	$+ \$0.00$
$MRI_F < MRI \leq MRI_D$	$- (MRI - MRI_F) \times \$8.00$
$MRI > MRI_D$	$- \$200.00$

1/ MRI , MRI_I , MRI_F , and MRI_D shall be in in./mile for calculation.

2/ The maximum incentive amount shall not exceed \$300.00.

Smoothness assessments will not be paid or deducted until all other contract requirements for the pavement are satisfied. Pavement that is corrected or replaced for reasons other than smoothness, shall be retested as stated herein.”

Hot-Mix Asphalt (HMA) Pavement (Full-Depth)

Revise the first paragraph of Article 407.03 of the Standard Specifications to read:

“407.03 Equipment. Equipment shall be according to Article 406.03.”

Revise Article 407.09 of the Standard Specifications to read:

“407.09 Surface Tests. The finished surface of the pavement shall be tested for smoothness according to Article 406.11, except as follows:

The testing of the existing pavement prior to improvements shall not apply and the smoothness assessment for high-speed mainline pavement shall be determined according to the following table.

SMOOTHNESS ASSESSMENT SCHEDULE (High-Speed, Full-Depth HMA)	
Mainline Pavement MRI, in./mile (mm/km)	Assessment Per Sublot ^{1/}
≤ 45.0 (710)	+ (45 – MRI) × \$45.00 ^{2/}
> 45.0 (710) to 75.0 (1,190)	+ \$0.00
> 75.0 (1,190) to 100.0 (1,580)	– (MRI – 75) × \$20.00
> 100.0 (1,580)	– \$500.00

1/ MRI shall be in in./mile for calculation.

2/ The maximum incentive amount shall not exceed \$800.00.”

Portland Cement Concrete Pavement

Delete Article 420.03(i) of the Standard Specifications.

Revise Article 420.10 of the Standard Specifications to read:

“420.10 Surface Tests. The finished surface of the pavement shall be tested for smoothness according to Article 406.11, except as follows.

The testing of the existing pavement prior to improvements shall not apply. The Contractor shall measure the smoothness of the finished surface of the pavement after the pavement has attained a flexural strength of 250 psi (3,800 kPa) or a compressive strength of 1,600 psi (20,700 kPa).

Membrane curing damaged during testing shall be repaired as directed by the Engineer at no additional cost to the Department.

- (a) Corrective Work. No further texturing for skid resistance will be required for areas corrected by grinding. Protective coat shall be reapplied to areas ground according to Article 420.18 at no additional cost to the Department.

Jointed portland cement concrete pavement corrected by removal and replacement, shall be corrected in full panel sizes.

- (b) Smoothness Assessments. Smoothness assessment for high-speed mainline pavement shall be determined as follows.

SMOOTHNESS ASSESSMENT SCHEDULE (High-Speed, PCC)	
Mainline Pavement MRI, in./mile (mm/km) ^{3/}	Assessment Per Sublot ^{1/}
≤ 45.0 (710)	+ (45 – MRI) × \$60.00 ^{2/}
> 45.0 (710) to 75.0 (1,190)	+ \$0.00
> 75.0 (1,190) to 100.0 (1,580)	– (MRI – 75) × \$37.50
> 100.0 (1,580)	– \$750.00

1/ MRI shall be in in./mile for calculation.

2/ The maximum incentive amount shall not exceed \$1200.00.

3/ If pavement is constructed with traffic in the lane next to it, then an additional 10 in./mile will be added to the upper thresholds.”

Removal of Existing Pavement and Appurtenances

Revise the first paragraph of Article 440.04 of the Standard Specifications to read:

“**440.04 HMA Surface Removal for Subsequent Resurfacing.** The existing HMA surface shall be removed to the depth specified on the plans with a self-propelled milling machine. The removal depth may be varied slightly at the discretion of the Engineer to satisfy the smoothness requirements of the finished pavement. The temperature at which the work is performed, the nature and condition of the equipment, and the manner of performing the work shall be such that the milled surface is not torn, gouged, shoved or otherwise damaged by the milling operation. Sufficient cutting passes shall be made so that all irregularities or high spots are eliminated to the satisfaction of the Engineer. When tested with a 16 ft (5 m) straightedge, the milled surface shall have no surface variations in excess of 3/16 in. (5 mm).”

General Equipment

Revise Article 1101.04 of the Standard Specifications to read:

“**1101.04 Pavement Surface Grinding Equipment.** The pavement surface grinding device shall have a minimum effective head width of 3 ft (0.9 m).

- (a) Diamond Saw Blade Machine. The machine shall be self-propelled with multiple diamond saw blades.
- (b) Profile Milling Machine. The profile milling machine shall be a drum device with carbide or diamond teeth with spacing of 0.315 in. (8 mm) or less and maintain proper forward speed for surface texture according to the manufacturer’s specifications.”

TRAFFIC SPOTTERS (BDE)

Effective: January 1, 2019

Revise Article 701.13 of the Standard Specifications to read:

“701.13 Flaggers and Spotters. Flaggers shall be certified by an agency approved by the Department. While on the job site, each flagger shall have in his/her possession a current driver’s license and a current flagger certification I.D. card. For non-drivers, the Illinois Identification Card issued by the Secretary of State will meet the requirement for a current driver’s license. This certification requirement may be waived by the Engineer for emergency situations that arise due to actions beyond the Contractor’s control where flagging is needed to maintain safe traffic control on a temporary basis. Spotters are defined as certified flaggers that provide support to workers by monitoring traffic.

Flaggers and spotters shall be stationed to the satisfaction of the Engineer and be equipped with a fluorescent orange, fluorescent yellow/green, or a combination of fluorescent orange and fluorescent yellow/green vest meeting the requirements of ANSI/ISEA 107-2004 or ANSI/ISEA 107-2010 for Conspicuity Class 2 garments. Flaggers shall be equipped with a stop/slow traffic control sign. Spotters shall be equipped with a loud warning device. The warning sound shall be identifiable by workers so they can take evasive action when necessary. Other types of garments may be substituted for the vest as long as the garments have a manufacturer’s tag identifying them as meeting the ANSI Class 2 requirement. The longitudinal placement of the flagger may be increased up to 100 ft (30 m) from that shown on the plans to improve the visibility of the flagger. Flaggers shall not encroach on the open lane of traffic unless traffic has been stopped. Spotters shall not encroach on the open lane of traffic, nor interact with or control the flow of traffic.

For nighttime flagging, flaggers shall be illuminated by an overhead light source providing a minimum vertical illuminance of 10 fc (108 lux) measured 1 ft (300 mm) out from the flagger’s chest. The bottom of any luminaire shall be a minimum of 10 ft (3 m) above the pavement. Luminaire(s) shall be shielded to minimize glare to approaching traffic and trespass light to adjoining properties. Nighttime flaggers shall be equipped with fluorescent orange or fluorescent orange and fluorescent yellow/green apparel meeting the requirements of ANSI/ISEA 107-2004 or ANSI/ISEA 107-2010 for Conspicuity Class 3 garments.

Flaggers and spotters shall be provided per the traffic control plan and as follows.

- (a) Two-Lane Highways. Two flaggers will be required for each separate operation where two-way traffic is maintained over one lane of pavement. Work operations controlled by flaggers shall be no more than 1 mile (1600 m) in length. Flaggers shall be in sight of each other or in direct communication at all times. Direct communication shall be obtained by using portable two-way radios or walkie-talkies.

The Engineer will determine when a side road or entrance shall be closed to traffic. A flagger will be required at each side road or entrance remaining open to traffic within the operation where two-way traffic is maintained on one lane of pavement. The flagger shall be positioned as shown on the plans or as directed by the Engineer.

- (b) Multi-Lane Highways. At all times where traffic is restricted to less than the normal number of lanes on a multilane pavement with a posted speed limit greater than 40 mph and the workers are present, but not separated from the traffic by physical barriers, a flagger or spotter shall be furnished as shown on the plans. Flaggers shall warn and direct traffic. Spotters shall monitor traffic conditions and warn workers of errant approaching vehicles or other hazardous conditions as they occur. One flagger will be required for each separate activity of an operation that requires frequent encroachment in a lane open to traffic. One spotter will be required for each separate activity with workers near the edge of the open lane or with their backs facing traffic.

Flaggers will not be required when no work is being performed, unless there is a lane closure on two-lane, two-way pavement.”

TRAINING SPECIAL PROVISIONS (BDE)

Effective: October 15, 1975

Revised: September 2, 2021

This Training Special Provision supersedes Section 7b of the Special Provision entitled “Specific Equal Employment Opportunity Responsibilities,” and is in implementation of 23 U.S.C. 140(a).

As part of the Contractor’s equal employment opportunity affirmative action program, training shall be provided as follows:

The Contractor shall provide on-the-job training aimed at developing full journeyman in the type of trade or job classification involved. The number of trainees to be trained under this contract will be 8. In the event the Contractor subcontracts a portion of the contract work, it shall determine how many, if any, of the trainees are to be trained by the subcontractor, provided however, that the Contractor shall retain the primary responsibility for meeting the training requirements imposed by this special provision. The Contractor shall also ensure that this Training Special Provision is made applicable to such subcontract. Where feasible, 25 percent of apprentices or trainees in each occupation shall be in their first year of apprenticeship or training.

The number of trainees shall be distributed among the work classifications on the basis of the Contractor’s needs and the availability of journeymen in the various classifications within the reasonable area of recruitment. Prior to commencing construction, the Contractor shall submit to the Illinois Department of Transportation for approval the number of trainees to be trained in each selected classification and training program to be used. Furthermore, the Contractor shall specify the starting time for training in each of the classifications. The Contractor will be credited for each trainee it employs on the contract work who is currently enrolled or becomes enrolled in an approved program and will be reimbursed for such trainees as provided hereinafter.

Training and upgrading of minorities and women toward journeyman status is a primary objective of this Training Special Provision. Accordingly, the Contractor shall make every effort to enroll minority trainees and women (e.g. by conducting systematic and direct recruitment through public and private sources likely to yield minority and women trainees) to the extent such persons are available within a reasonable area of recruitment. The Contractor will be responsible for demonstrating the steps it has taken in pursuance thereof, prior to a determination as to whether the Contractor is in compliance with this Training Special Provision. This training commitment is

not intended, and shall not be used, to discriminate against any applicant for training, whether a member of a minority group or not.

No employee shall be employed as a trainee in any classification in which he or she has successfully completed a training course leading to journeyman status or in which he or she has been employed as a journeyman. The Contractor should satisfy this requirement by including appropriate questions in the employee application or by other suitable means. Regardless of the method used, the Contractor's records should document the findings in each case.

The minimum length and type of training for each classification will be as established in the training program selected by the Contractor and approved by the Illinois Department of Transportation and the Federal Highway Administration. The Illinois Department of Transportation and the Federal Highway Administration shall approve a program, if it is reasonably calculated to meet the equal employment opportunity obligations of the Contractor and to qualify the average trainee for journeyman status in the classification concerned by the end of the training period. Furthermore, apprenticeship programs registered with the U.S. Department of Labor, Bureau of Apprenticeship and Training, or with a State apprenticeship agency recognized by the Bureau and training programs approved by not necessarily sponsored by the U.S. Department of Labor Employment Training Administration shall also be considered acceptable provided it is being administered in a manner consistent with the equal employment obligations of Federal-aid highway construction contracts. Approval or acceptance of a training program shall be obtained from the State prior to commencing work on the classification covered by the program. It is the intention of these provisions that training is to be provided in the construction crafts rather than clerk-typists or secretarial-type positions. Training is permissible in lower level management positions such as office engineers, estimators, timekeepers, etc., where the training is oriented toward construction applications. Training in the laborer classification may be permitted provided that significant and meaningful training is provided and approved by the Illinois Department of Transportation and the Federal Highway Administration. Some offsite training is permissible as long as the training is an integral part of an approved training program and does not comprise a significant part of the overall training.

Except as otherwise noted below, the Contractor will be reimbursed 80 cents per hour of training given an employee on this contract in accordance with an approved training program. As approved by the Engineer, reimbursement will be made for training of persons in excess of the number specified herein. This reimbursement will be made even though the Contractor receives additional training program funds from other sources, provided such other source does not specifically prohibit the Contractor from receiving other reimbursement. Reimbursement for offsite training indicated above may only be made to the Contractor where he does one or more of the following and the trainees are concurrently employed on a Federal-aid project; contributes to the cost of the training, provides the instruction to the trainee or pays the trainee's wages during the offsite training period.

No payment shall be made to the Contractor if either the failure to provide the required training, or the failure to hire the trainee as a journeyman, is caused by the Contractor and evidences a lack of good faith on the part of the Contractor in meeting the requirement of this Training Special Provision. It is normally expected that a trainee will begin his training on the project as soon as feasible after start of work utilizing the skill involved and remain on the project as long as training opportunities exist in his work classification or until he has completed his training program.

It is not required that all trainees be on board for the entire length of the contract. A Contractor will have fulfilled his responsibilities under this Training Special Provision if he has provided

acceptable training to the number of trainees specified. The number trained shall be determined on the basis of the total number enrolled on the contract for a significant period.

Trainees will be paid at least 60 percent of the appropriate minimum journeyman's rate specified in the contract for the first half of the training period, 75 percent for the third quarter of the training period, and 90 percent for the last quarter of the training period, unless apprentices or trainees in an approved existing program are enrolled as trainees on this project. In that case, the appropriate rates approved by the Departments of Labor or Transportation in connection with the existing program shall apply to all trainees being trained for the same classification who are covered by this Training Special Provision.

The Contractor shall furnish the trainee a copy of the program he will follow in providing the training. The Contractor shall provide each trainee with a certification showing the type and length of training satisfactorily complete.

The Contractor shall provide for the maintenance of records and furnish periodic reports documenting its performance under this Training Special Provision.

For contracts with an awarded contract value of \$500,000 or more, the Contractor is required to comply with the Illinois Works Apprenticeship Initiative (30 ILCS 559/20-20 to 20-25) and all applicable administrative rules to the extent permitted by Section 20-20(g). For federally funded projects, the number of trainees to be trained under this contract, as stated in the Training Special Provisions, will be the established goal for the Illinois Works Apprenticeship Initiative 30 ILCS 559/20-20(g). The Contractor shall make a good faith effort to meet this goal. For federally funded projects, the Illinois Works Apprenticeship Initiative will be implemented using the FHWA approved OJT procedures. The Contractor must comply with the recordkeeping and reporting obligations of the Illinois Works Apprenticeship Initiative for the life of the project, including the certification as to whether the trainee/apprentice labor hour goals were met.

Method of Measurement. The unit of measurement is in hours.

Basis of Payment. This work will be paid for at the contract unit price of 80 cents per hour for TRAINEES. The estimated total number of hours, unit price, and total price have been included in the schedule of prices.

IDOT TRAINING PROGRAM GRADUATE ON-THE-JOB TRAINING SPECIAL PROVISION

Effective: August 1, 2012

Revised: February 2, 2017

In addition to the Contractor's equal employment opportunity (EEO) affirmative action efforts undertaken as required by this Contract, the Contractor is encouraged to participate in the incentive program described below to provide additional on-the-job training to certified graduates of the IDOT pre-apprenticeship training program, as outlined in this Special Provision.

IDOT funds, and various Illinois community colleges operate, pre-apprenticeship training programs throughout the State to provide training and skill-improvement opportunities to promote the increased employment of minority groups, disadvantaged persons and women in all aspects of the highway construction industry. The intent of this IDOT Pre-Apprenticeship Training Program Graduate (TPG) special provision (Special Provision) is to place these certified program graduates on the project site for this Contract in order to provide the graduates with meaningful

on-the-job training. Pursuant to this Special Provision, the Contractor must make every reasonable effort to recruit and employ certified TPG trainees to the extent such individuals are available within a practicable distance of the project site.

Specifically, participation of the Contractor or its subcontractor in the Program entitles the participant to reimbursement for graduates' hourly wages at \$15.00 per hour per utilized TPG trainee, subject to the terms of this Special Provision. Reimbursement payment will be made even though the Contractor or subcontractor may also receive additional training program funds from other non-IDOT sources for other non-TPG trainees on the Contract, provided such other source does not specifically prohibit the Contractor or subcontractor from receiving reimbursement from another entity through another program, such as IDOT through the TPG program. With regard to any IDOT funded construction training program other than TPG, however, additional reimbursement for other IDOT programs will not be made beyond the TPG Program described in this Special Provision when the TPG Program is utilized.

No payment will be made to the Contractor if the Contractor or subcontractor fails to provide the required on-site training to TPG trainees, as solely determined by IDOT. A TPG trainee must begin training on the project as soon as the start of work that utilizes the relevant trade skill and the TPG trainee must remain on the project site through completion of the Contract, so long as training opportunities continue to exist in the relevant work classification. Should a TPG trainee's employment end in advance of the completion of the Contract, the Contractor must promptly notify the IDOT District EEO Officer for the Contract that the TPG's involvement in the Contract has ended. The Contractor must supply a written report for the reason the TPG trainee involvement terminated, the hours completed by the TPG trainee on the Contract, and the number of hours for which the incentive payment provided under this Special Provision will be, or has been claimed for the separated TPG trainee.

Finally, the Contractor must maintain all records it creates as a result of participation in the Program on the Contract, and furnish periodic written reports to the IDOT District EEO Officer that document its contractual performance under and compliance with this Special Provision. Finally, through participation in the Program and reimbursement of wages, the Contractor is not relieved of, and IDOT has not waived, the requirements of any federal or state labor or employment law applicable to TPG workers, including compliance with the Illinois Prevailing Wage Act.

Method of Measurement: The unit of measurement is in hours.

Basis of Payment: This work will be paid for at the contract unit price of \$15.00 per hour for each utilized certified TPG Program trainee (TRAINEES TRAINING PROGRAM GRADUATE). The estimated total number of hours, unit price, and total price must be included in the schedule of prices for the Contract submitted by Contractor prior to beginning work. The initial number of TPG trainees for which the incentive is available for this contract is 8.

The Department has contracted with several educational institutions to provide screening, tutoring and pre-training to individuals interested in working as a TPG trainee in various areas of common construction trade work. Only individuals who have successfully completed a Pre-Apprenticeship Training Program at these IDOT approved institutions are eligible to be TPG trainees. To obtain a list of institutions that can connect the Contractor with eligible TPG trainees, the Contractor may contact: HCCTP TPG Program Coordinator, Office of Business and Workforce Diversity (IDOT OBWD), Room 319, Illinois Department of Transportation, 2300 S. Dirksen Parkway, Springfield, Illinois 62764. Prior to commencing construction with the utilization of a TPG trainee, the Contractor must submit documentation to the IDOT District EEO Officer for the Contract that

provides the names and contact information of the TPG trainee(s) to be trained in each selected work classification, proof that that the TPG trainee(s) has successfully completed a Pre-Apprenticeship Training Program, proof that the TPG is in an Apprenticeship Training Program approved by the U.S. Department of Labor Bureau of Apprenticeship Training, and the start date for training in each of the applicable work classifications.

To receive payment, the Contractor must provide training opportunities aimed at developing a full journeyworker in the type of trade or job classification involved. During the course of performance of the Contract, the Contractor may seek approval from the IDOT District EEO Officer to employ additional eligible TPG trainees. In the event the Contractor subcontracts a portion of the contracted work, it must determine how many, if any, of the TPGs will be trained by the subcontractor. Though a subcontractor may conduct training, the Contractor retains the responsibility for meeting all requirements imposed by this Special Provision. The Contractor must also include this Special Provision in any subcontract where payment for contracted work performed by a TPG trainee will be passed on to a subcontractor.

Training through the Program is intended to move TPGs toward journeyman status, which is the primary objective of this Special Provision. Accordingly, the Contractor must make every effort to enroll TPG trainees by recruitment through the Program participant educational institutions to the extent eligible TPGs are available within a reasonable geographic area of the project. The Contractor is responsible for demonstrating, through documentation, the recruitment efforts it has undertaken prior to the determination by IDOT whether the Contractor is in compliance with this Special Provision, and therefore, entitled to the Training Program Graduate reimbursement of \$15.00 per hour.

Notwithstanding the on-the-job training requirement of this TPG Special Provision, some minimal off-site training is permissible as long as the offsite training is an integral part of the work of the contract, and does not compromise or conflict with the required on-site training that is central to the purpose of the Program. No individual may be employed as a TPG trainee in any work classification in which he/she has previously successfully completed a training program leading to journeyman status in any trade, or in which he/she has worked at a journeyman level or higher.

VEHICLE AND EQUIPMENT WARNING LIGHTS (BDE)

Effective: November 1, 2021

Revised: November 1, 2022

Add the following paragraph after the first paragraph of Article 701.08 of the Standard Specifications:

“The Contractor shall equip all vehicles and equipment with high-intensity oscillating, rotating, or flashing, amber or amber-and-white, warning lights which are visible from all directions. In accordance with 625 ILCS 5/12-215, the lights may only be in operation while the vehicle or equipment is engaged in construction operations.”

WEEKLY DBE TRUCKING REPORTS (BDE)

Effective: June 2, 2012

Revised: November 1, 2021

The Contractor shall submit a weekly report of Disadvantaged Business Enterprise (DBE) trucks hired by the Contractor or subcontractors (i.e. not owned by the Contractor or subcontractors) that are used for DBE goal credit.

The report shall be submitted to the Engineer on Department form “SBE 723” within ten business days following the reporting period. The reporting period shall be Sunday through Saturday for each week reportable trucking activities occur.

Any costs associated with providing weekly DBE trucking reports shall be considered as included in the contract unit prices bid for the various items of work involved and no additional compensation will be allowed.

WOOD SIGN SUPPORT (BDE)

Effective: November 1, 2023

Add the following to Article 730.02 of the Standard Specifications:

“(c) Preservative Treatment1007.12”

Revise the first paragraph of Article 730.03 of the Standard Specifications to read:

“ **730.03 General.** Wood sign supports shall be treated. When the 4 x 6 in. (100 x 150 mm) posts are used, they shall be modified to satisfy the breakaway requirements by drilling 1 1/2 in. (38 mm) diameter holes centered at 4 and 18 in. (100 and 450 mm) above the groundline and perpendicular to the centerline of the roadway.”

WORK ZONE TRAFFIC CONTROL DEVICES (BDE)

Effective: March 2, 2020

Add the following to Article 701.03 of the Standard Specifications:

“(q) Temporary Sign Supports1106.02”

Revise the third paragraph of Article 701.14 of the Standard Specifications to read:

“For temporary sign supports, the Contractor shall provide a FHWA eligibility letter for each device used on the contract. The letter shall provide information for the set-up and use of the device as well as a detailed drawing of the device. The signs shall be supported within 20 degrees of vertical. Weights used to stabilize signs shall be attached to the sign support per the manufacturer’s specifications.”

Revise the first paragraph of Article 701.15 of the Standard Specifications to read:

“701.15 Traffic Control Devices. For devices that must meet crashworthiness standards, the Contractor shall provide a manufacturer’s self-certification or a FHWA eligibility letter for each Category 1 device and a FHWA eligibility letter for each Category 2 and Category 3 device used on the contract. The self-certification or letter shall provide information for the set-up and use of the device as well as a detailed drawing of the device.”

Revise the first six paragraphs of Article 1106.02 of the Standard Specifications to read:

“1106.02 Devices. Work zone traffic control devices and combinations of devices shall meet crashworthiness standards for their respective categories. The categories are as follows.

Category 1 includes small, lightweight, channelizing and delineating devices that have been in common use for many years and are known to be crashworthy by crash testing of similar devices or years of demonstrable safe performance. These include cones, tubular markers, plastic drums, and delineators, with no attachments (e.g. lights). Category 1 devices manufactured after December 31, 2019 shall be MASH-16 compliant. Category 1 devices manufactured on or before December 31, 2019, and compliant with NCHRP 350 or MASH 2009, may be used on contracts let before December 31, 2024.

Category 2 includes devices that are not expected to produce significant vehicular velocity change but may otherwise be hazardous. These include vertical panels with lights, barricades, temporary sign supports, and Category 1 devices with attachments (e.g. drums with lights). Category 2 devices manufactured after December 31, 2019 shall be MASH-16 compliant. Category 2 devices manufactured on or before December 31, 2019, and compliant with NCHRP 350 or MASH 2009, may be used on contracts let before December 31, 2024.

Category 3 includes devices that are expected to cause significant velocity changes or other potentially harmful reactions to impacting vehicles. These include crash cushions (impact attenuators), truck mounted attenuators, and other devices not meeting the definitions of Category 1 or 2. Category 3 devices manufactured after December 31, 2019 shall be MASH-16 compliant. Category 3 devices manufactured on or before December 31, 2019, and compliant with NCHRP 350 or MASH 2009, may be used on contracts let before December 31, 2029. Category 3 devices shall be crash tested for Test Level 3 or the test level specified.

Category 4 includes portable or trailer-mounted devices such as arrow boards, changeable message signs, temporary traffic signals, and area lighting supports. It is preferable for Category 4 devices manufactured after December 31, 2019 to be MASH-16 compliant; however, there are currently no crash tested devices in this category, so it remains exempt from the NCHRP 350 or MASH compliance requirement.

For each type of device, when no more than one MASH-16 compliant is available, an NCHRP 350 or MASH-2009 compliant device may be used, even if manufactured after December 31, 2019.”

Revise Articles 1106.02(g), 1106.02(k), and 1106.02(l) to read:

“(g) Truck Mounted/Trailer Mounted Attenuators. The attenuator shall be approved for use at Test Level 3. Test Level 2 may be used for normal posted speeds less than or equal to 45 mph.

(k) Temporary Water Filled Barrier. The water filled barrier shall be a lightweight plastic shell designed to accept water ballast and be on the Department’s qualified product list.

Shop drawings shall be furnished by the manufacturer and shall indicate the deflection of the barrier as determined by acceptance testing; the configuration of the barrier in that test; and the vehicle weight, velocity, and angle of impact of the deflection test. The Engineer shall be provided one copy of the shop drawings.

(l) Movable Traffic Barrier. The movable traffic barrier shall be on the Department’s qualified product list.

Shop drawings shall be furnished by the manufacturer and shall indicate the deflection of the barrier as determined by acceptance testing; the configuration of the barrier in that test; and the vehicle weight, velocity, and angle of impact of the deflection test. The Engineer shall be provided one copy of the shop drawings. The barrier shall be capable of being moved on and off the roadway on a daily basis.”

PROJECT LABOR AGREEMENT

Effective: May 18, 2007

Revised: August 1, 2019

Description. The Illinois Project Labor Agreements Act, 30 ILCS 571, states that the State of Illinois has a compelling interest in awarding public works contracts so as to ensure the highest standards of quality and efficiency at the lowest responsible cost. A project labor agreement (PLA) is a form of pre-hire collective bargaining agreement covering all terms and conditions of employment on a specific project that is intended to support this compelling interest. It has been determined by the Department that a PLA is appropriate for the project that is the subject of this contract. The PLA document, provided below, only applies to the construction site for this contract. It is the policy of the Department on this contract, and all construction projects, to allow all contractors and subcontractors to compete for contracts and subcontracts without regard to whether they are otherwise parties to collective bargaining agreements.

Execution of Letter of Assent. A copy of the PLA applicable to this project is included as part of this special provision. As a condition of the award of the contract, the successful bidder and each of its subcontractors shall execute a "Contractor Letter of Assent", in the form attached to the PLA as Exhibit A. The successful bidder shall submit a Subcontractor's Contractor Letter of Assent to the Department prior to the subcontractor's performance of work on the project. Upon request, copies of the applicable collective bargaining agreements will be provided by the appropriate signatory labor organization at the pre-job conference.

Quarterly Reporting. Section 37 of the Illinois Project Labor Agreements Act requires the Department to submit quarterly reports regarding the number of minorities and females employed under PLAs. To assist in this reporting effort, the Contractor shall provide a quarterly workforce participation report for all minority and female employees working under the PLA of this contract. The data shall be reported on Construction Form BC 820, Project Labor Agreement (PLA) Workforce Participation Quarterly Reporting Form available on the Department's website <http://www.idot.illinois.gov/Assets/uploads/files/IDOT-Forms/BC/BC%20820.docx>.

The report shall be submitted no later than the 15th of the month following the end of each quarter (i.e., April 15 for the January – March reporting period). The form shall be emailed to DOT.PLA.Reporting@illinois.gov or faxed to (217) 524-4922.

Any costs associated with complying with this provision shall be considered as included in the contract unit prices bid for the various items of work involved and no additional compensation will be allowed.

Illinois Department of Transportation
PROJECT LABOR AGREEMENT

This Project Labor Agreement (“PLA” or “Agreement”) is entered into this _____ day of

_____, 2024, by and between the Illinois Department of Transportation (“IDOT” or “Department”) in its proprietary capacity, and each relevant Illinois AFL-CIO Building Trades signatory hereto as determined by the Illinois AFL-CIO Statewide Project Labor Agreement Committee on behalf of each of its affiliated members (individually and collectively, the “Unions”). This PLA shall apply to Construction Work (as defined herein) to be performed by IDOT’s Prime Contractor and each of its subcontractors of whatever tier (“Subcontractor” or “Subcontractors”) on Contract No. (hereinafter, the “Project”).

ARTICLE I - INTENT AND PURPOSES

- 1.1 This PLA is entered into in accordance with the Project Labor Agreement Act (“Act”, 30 ILCS 571). It is mutually understood and agreed that the terms and conditions of this PLA are intended to promote the public interest in obtaining timely and economical completion of the Project by encouraging productive and efficient construction operations; by establishing a spirit of harmony and cooperation among the parties; and by providing for peaceful and prompt settlement of any and all labor grievances or jurisdictional disputes of any kind without strikes, lockouts, slowdowns, delays, or other disruptions to the prosecution of the work. The parties acknowledge the obligations of the Contractors and Subcontractors to comply with the provisions of the Act. The parties will work with the Contractors and Subcontractors within the parameters of other statutory and regulatory requirements to implement the Act’s goals and objectives.
- 1.2 As a condition of the award of the contract for performance of work on the Project, IDOT’s Prime Contractor and each of its Subcontractors shall execute a “Contractor Letter of Assent”, in the form attached hereto as Exhibit A, prior to commencing Construction Work on the Project. The Contractor shall submit a Subcontractor’s Contractor Letter of Assent to the Department prior to the Subcontractor’s performance of Construction Work on the Project. Upon request copies of the applicable collective bargaining agreements will be provided by the appropriate signatory labor organization consistent with this Agreement and at the pre-job conference referenced in Article III, Section 3.1.

- 1.3 Each Union affiliate and separate local representing workers engaged in Construction Work on the Project in accordance with this PLA are bound to this agreement by the Illinois AFL-CIO Statewide Project Labor Agreement Committee which is the central committee established with full authority to negotiate and sign PLAs with the State on behalf of all respective crafts. Upon their signing the Contractor Letter of Assent, the Prime Contractor, each Subcontractor, and the individual Unions shall thereafter be deemed a party to this PLA. No party signatory to this PLA shall, contract or subcontract, nor permit any other person, firm, company, or entity to contract or subcontract for the performance of Construction Work for the Project to any person, firm, company, or entity that does not agree in writing to become bound for the term of this Project by the terms of this PLA prior to commencing such work and to the applicable area-wide collective bargaining agreement(s) with the Union(s) signatory hereto.
- 1.4 It is understood that the Prime Contractor(s) and each Subcontractor will be considered and accepted by the Unions as separate employers for the purposes of collective bargaining, and it is further agreed that the employees working under this PLA shall constitute a bargaining unit separate and distinct from all others. The parties hereto also agree that this PLA shall be applicable solely with respect to this Project, and shall have no bearing on the interpretation of any other collective bargaining agreement or as to the recognition of any bargaining unit other than for the specific purposes of this Project.
- 1.5 In the event of a variance or conflict, whether explicit or implicit, between the terms and conditions of this PLA and the provisions of any other applicable national, area, or local collective bargaining agreement, the terms and conditions of this PLA shall supersede and control. For any work performed under the NTL Articles of Agreement, the National Stack/Chimney Agreement, the National Cooling Tower Agreement, the National Agreement of the International Union of Elevator Constructors, and for any instrument calibration work and loop checking performed under the UA/IBEW Joint National Agreement for Instrument and Control Systems Technicians, the preceding sentence shall apply only with respect to Articles I, II, V, VI, and VII.

- 1.6 Subject to the provisions of paragraph 1.5 of this Article, it is the parties' intent to respect the provisions of any other collective bargaining agreements that may now or hereafter pertain, whether between the Prime Contractor and one or more of the Unions or between a Subcontractor and one or more of the Unions. Accordingly, except and to the extent of any contrary provision set forth in this PLA, the Prime Contractor and each of its Subcontractors agrees to be bound and abide by the terms of the following in order of precedence: (a) the applicable collective bargaining agreement between the Prime Contractor and one or more of the Unions made signatory hereto; (b) the applicable collective bargaining agreement between a Subcontractor and one or more of the Unions made signatory hereto; or (c) the current applicable area collective bargaining agreement for the relevant Union that is the agreement certified by the Illinois Department of Labor for purposes of establishing the Prevailing Wage applicable to the Project. The Union will provide copies of the applicable collective bargaining agreements pursuant to part (c) of the preceding sentence to the Prime Contractor. Assignments by the Contractors or Subcontractors amongst the trades shall be consistent with area practices; in the event of unresolved disagreements as to the propriety of such assignments, the provisions of Article VI shall apply.
- 1.7 Subject to the limitations of paragraphs 1.4 to 1.6 of this Article, the terms of each applicable collective bargaining agreement as determined in accordance with paragraph 1.6 are incorporated herein by reference, and the terms of this PLA shall be deemed incorporated into such other applicable collective bargaining agreements only for purposes of their application to the Project.
- 1.8 To the extent necessary to comply with the requirements of any fringe benefit fund to which the Prime Contractor or Subcontractor is required to contribute under the terms of an applicable collective bargaining agreement pursuant to the preceding paragraph, the Prime Contractor or Subcontractor shall execute all "Participation Agreements" as may be reasonably required by the Union to accomplish such purpose; provided, however, that such Participation Agreements shall, when applicable to the Prime Contractor or Subcontractor solely as a result of this PLA, be amended as reasonably necessary to reflect such fact. Upon written notice in the form of a lien of a Contractor's or Subcontractor's delinquency from any applicable fringe benefit fund, IDOT will withhold from the Contractor's periodic pay request an amount sufficient to extinguish any delinquency obligation of the Contractor or Subcontractor arising out of the Project.
- 1.9 In the event that the applicable collective bargaining agreement between a Prime Contractor and the Union or between the Subcontractor and the Union expires prior to the completion of this Project, the expired applicable contract's terms will be maintained until a new applicable collective bargaining agreement is ratified. The wages and fringe benefits included in any new applicable collective bargaining agreement will apply on and after the effective date of the newly negotiated collective bargaining agreement, except to the extent wage and fringe benefit retroactivity is specifically agreed upon by the relevant bargaining parties.

ARTICLE II – APPLICABILITY, RECOGNITION, AND COMMITMENTS

- 2.1 The term Construction Work as used herein shall include all “construction, demolition, rehabilitation, renovation, or repair” work performed by a “laborer or mechanic” at the “site of the work” for the purpose of “building” the specific structures and improvements that constitute the Project. Terms appearing within quotation marks in the preceding sentence shall have the meaning ascribed to them pursuant to 29 CFR Part 5 and Illinois labor laws.
- 2.2 By executing the Letters of Assent, Prime Contractor and each of its Subcontractors recognizes the Unions signatory to this PLA as the sole and exclusive bargaining representatives for their craft employees employed on the jobsite for this Project. Unions who are signatory to this PLA will have recognition on the Project for their craft.
- 2.3 The Prime Contractor and each of its Subcontractors retains and shall be permitted to exercise full and exclusive authority and responsibility for the management of its operations, except as expressly limited by the terms of this PLA or by the terms and conditions of the applicable collective bargaining agreement.
- 2.4 Except to the extent contrary to an express provision of the relevant collective bargaining agreement, equipment or materials used in the Project may be pre-assembled or pre-fabricated, and there shall be no refusal by the Union to handle, transport, install, or connect such equipment or materials. Equipment or materials delivered to the job-site will be unloaded and handled promptly without regard to potential jurisdictional disputes; any such disputes shall be handled in accordance with the provisions of this PLA.
- 2.5 The parties are mutually committed to promoting a safe working environment for all personnel at the job-site. It shall be the responsibility of each employer to which this PLA applies to provide and maintain safe working conditions for its employees, and to comply with all applicable federal, state, and local health and safety laws and regulations.
- 2.6 The use or furnishing of alcohol or drugs and the conduct of any other illegal activity at the job-site is strictly prohibited. The parties shall take every practical measure consistent with the terms of applicable collective bargaining agreements to ensure that the job-site is free of alcohol and drugs.
- 2.7 All parties to this PLA agree that they will not discriminate against any employee based on race, creed, religion, color, national origin, union activity, age, gender or sexual orientation and shall comply with all applicable federal, state, and local laws.

- 2.8 In accordance with the Act and to promote diversity in employment, IDOT will establish, in cooperation with the other parties, the apprenticeship hours which are to be performed by minorities and females on the Project. IDOT shall consider the total hours to be performed by these underrepresented groups, as a percentage of the workforce, and create aspirational goals for each Project, based on the level of underutilization for the service area of the Project (together "Project Employment Objectives"). IDOT shall provide a quarterly report regarding the racial and gender composition of the workforce on the Project.

Persons currently lacking qualifications to enter apprenticeship programs will have the opportunity to obtain skills through basic training programs as have been established by the Department. The parties will endeavor to support such training programs to allow participants to obtain the requisite qualifications for the Project Employment Objectives.

The parties agree that all Contractors and Subcontractors working on the Project shall be encouraged to utilize the maximum number of apprentices as permitted under the terms of the applicable collective bargaining agreements to realize the Project Employment Objectives.

The Unions shall assist the Contractor and each Subcontractor in efforts to satisfy Project Employment Objectives. A Contractor or Subcontractor may request from a Union specific categories of workers necessary to satisfy Project Employment Objectives. The application of this section shall be consistent with all local Union collective bargaining agreements, and the hiring hall rules and regulations established for the hiring of personnel, as well as the apprenticeship standards set forth by each individual Union.

- 2.9 The parties hereto agree that engineering consultants and materials testing employees, to the extent subject to the terms of this PLA, shall be fully expected to objectively and responsibly perform their duties and obligations owed to the Department without regard to the potential union affiliation of such employees or of other employees on the Project.
- 2.10 This Agreement shall not apply to IDOT employees or employees of any other governmental entity.

ARTICLE III - ADMINISTRATION OF AGREEMENT

- 3.1 In order to assure that all parties have a clear understanding of the PLA, and to promote harmony, at the request of the Unions a post-award pre-job conference will be held among the Prime Contractor, all Subcontractors and Union representatives prior to the start of any Construction Work on the Project. No later than the conclusion of such pre-job conference, the parties shall, among other matters, provide to one another contact information for their respective representatives (including name, address, phone number, facsimile number, e-mail). Nothing herein shall be construed to limit the right of the Department to discuss or explain the purpose and intent of this PLA with prospective bidders or other interested parties prior to or following its award of the job.
- 3.2 Representatives of the Prime Contractor and the Unions shall meet as often as reasonably necessary following award until completion of the Project to assure the effective implementation of this PLA.
- 3.3 Any notice contemplated under Article VI and VII of this Agreement to a signatory labor organization shall be made in writing to the Local Union with copies to the local union's International Representative.

ARTICLE IV - HOURS OF WORK AND GENERAL CONDITIONS

- 4.1 The standard work day and work week for Construction Work on the Project shall be consistent with the respective collective bargaining agreements. In the event Project site or other job conditions dictate a change in the established starting time and/or a staggered lunch period for portions of the Project or for specific crafts, the Prime Contractor, relevant Subcontractors and business managers of the specific crafts involved shall confer and mutually agree to such changes as appropriate. If proposed work schedule changes cannot be mutually agreed upon between the parties, the hours fixed at the time of the pre-job meeting shall prevail.
- 4.2 Shift work may be established and directed by the Prime Contractor or relevant Subcontractor as reasonably necessary or appropriate to fulfill the terms of its contract with the Department. If used, shift hours, rates and conditions shall be as provided in the applicable collective bargaining agreement.
- 4.3 The parties agree that chronic and/or unexcused absenteeism is undesirable and must be controlled in accordance with procedures established by the applicable collective bargaining agreement. Any employee disciplined for absenteeism in accordance with such procedures shall be suspended from all work on the Project for not less than the maximum period permitted under the applicable collective bargaining agreement.

- 4.4 Except as may be otherwise expressly provided by the applicable collective bargaining agreement, employment begins and ends at the Project site; employees shall be at their place of work at the starting time; and employees shall remain at their place of work until quitting time.
- 4.5 Except as may be otherwise expressly provided by the applicable collective bargaining agreement, there shall be no limit on production by workmen, no restrictions on the full use of tools or equipment, and no restrictions on efficient use of manpower or techniques of construction other than as may be required by safety regulations.
- 4.6 The parties recognize that specialized or unusual equipment may be installed on the Project. In such cases, the Union recognizes the right of the Prime Contractor or Subcontractor to involve the equipment supplier or vendor's personnel in supervising the setting up of the equipment, making modifications and final alignment, and performing similar activities that may be reasonably necessary prior to and during the start-up procedure in order to protect factory warranties. The Prime Contractor or Subcontractor shall notify the Union representatives in advance of any work at the job-site by such vendor personnel in order to promote a harmonious relationship between the equipment vendor's personnel and other Project employees.
- 4.7 For the purpose of promoting full and effective implementation of this PLA, authorized Union representatives shall have access to the Project job-site during scheduled work hours. Such access shall be conditioned upon adherence to all reasonable visitor and security rules of general applicability that may be established for the Project site at the pre-job conference or from time to time thereafter.

ARTICLE V – GRIEVANCE PROCEDURES FOR DISPUTES ARISING UNDER A PARTICULAR COLLECTIVE BARGAINING AGREEMENT

- 5.1 In the event a dispute arises under a particular collective bargaining agreement specifically not including jurisdictional disputes referenced in Article VI below, said dispute shall be resolved by the Grievance/Arbitration procedure of the applicable collective bargaining agreement. The resulting determination from this process shall be final and binding on all parties bound to its process.
- 5.2 Employers covered under this Agreement shall have the right to discharge or discipline any employee who violates the provisions of this Agreement. Such discharge or discipline by a contractor or subcontractor shall be subject to Grievance/Arbitration procedure of the applicable collective bargaining agreement only as to the fact of such violation of this agreement. If such fact is established, the penalty imposed shall not be disturbed. Work at the Project site shall continue without disruption or hindrance of any kind as a result of a Grievance/Arbitration procedure under this Article.

- 5.3 In the event there is a deadlock in the foregoing procedure, the parties agree that the matter shall be submitted to arbitration for the selection and decision of an Arbitrator governed under paragraph 6.8.

ARTICLE VI –DISPUTES: GENERAL PRINCIPLES

- 6.1 This Agreement is entered into to prevent strikes, lost time, lockouts and to facilitate the peaceful adjustment of jurisdictional disputes in the building and construction industry and to prevent waste and unnecessary avoidable delays and expense, and for the further purpose of at all times securing for the employer sufficient skilled workers.

- 6.2 A panel of Permanent Arbitrators are attached as addendum (A) to this agreement. By mutual agreement between IDOT and the Unions, the parties can open this section of the agreement as needed to make changes to the list of permanent arbitrators.

The arbitrator is not authorized to award back pay or any other damages for a miss assignment of work. Nor may any party bring an independent action for back pay or any other damages, based upon a decision of an arbitrator.

- 6.3 The PLA Jurisdictional Dispute Resolution Process (“Process”) sets forth the procedures below to resolve jurisdictional disputes between and among Contractors, Subcontractors, and Unions engaged in the building and construction industry. Further, the Process will be followed for any grievance or dispute arising out of the interpretation or application of this PLA by the parties except for the prohibition on attorneys contained in 6.11. All decisions made through the Process are final and binding upon all parties.

DISPUTE PROCESS

- 6.4 Administrative functions under the Process shall be performed through the offices of the President and/or Secretary-Treasurer of the Illinois State Federation of Labor, or their designated representative, called the Administrator. In no event shall any officer, employee, agent, attorney, or other representative of the Illinois Federation of Labor, AFL- CIO be subject to any subpoena to appear or testify at any jurisdictional dispute hearing.

- 6.5 There shall be no abandonment of work during any case participating in this Process or in violation of the arbitration decision. All parties to this Process release the Illinois State Federation of Labor (“Federation”) from any liability arising from its action or inaction and covenant not to sue the Federation, nor its officers, employees, agents or attorneys.

- 6.6 In the event of a dispute relating to trade or work jurisdiction, all parties, including the employers, Contractors or Subcontractors, agree that a final and binding resolution of the dispute shall be resolved as follows:
- (a) Representatives of the affected trades and the Contractor or Subcontractor shall meet on the job site within two (2) business days after receiving written notice in an effort to resolve the dispute. (In the event there is a dispute between local unions affiliated with the same International Union, the decision of the General President, or his/her designee, as the internal jurisdictional authority of that International Union, shall constitute a final and binding decision and determination as to the jurisdiction of work.)
 - (b) If no settlement is achieved subsequent to the preceding Paragraph, the matter shall be referred to the local area Building & Construction Trades Council, which shall meet with the affected trades within two (2) business days subsequent to receiving written notice. In the event the parties do not wish to avail themselves of the local Building & Construction Trades Council, the parties may elect to invoke the services of their respective International Representatives with no extension of the time limitations. An agreement reached at this Step shall be final and binding upon all parties.
 - (c) If no settlement agreement is reached during the proceedings contemplated by Paragraphs "a" or "b" above, the matter shall be immediately referred to the Illinois Jurisdictional Dispute Process for final and binding resolution of said dispute. Said referral submission shall be in writing and served upon the Illinois State Federation of Labor, or the Administrator, pursuant to paragraph 6.4 of this agreement. The Administrator shall, within three (3) days, provide for the selection of an available Arbitrator to hear said dispute within this time period. Upon good cause shown and determined by the Administrator, an additional three (3) day extension for said hearing shall be granted at the sole discretion of the Administrator. Only upon mutual agreement of all parties may the Administrator extend the hearing for a period in excess of the time frames contemplated under this Paragraph. Business days are defined as Monday through Friday, excluding contract holidays.
- 6.7 The primary concern of the Process shall be the adjustment of jurisdictional disputes arising out of the Project. A sufficient number of Arbitrators shall be selected from list of approved Arbitrators as referenced Sec. 6.2 and shall be assigned per Sec. 6.8. Decisions shall be only for the Project and shall become effective immediately upon issuance and complied with by all parties. The authority of the Arbitrator shall be restricted and limited specifically to the terms and provisions of Article VI and generally to this Agreement as a whole.

- 6.8 Arbitrator chosen shall be randomly selected based on the list of Arbitrators in Sec. 6.2 and geographical location of the jurisdictional dispute and upon his/her availability, and ability to conduct a Hearing within two (2) business days of said notice. The Arbitrator may issue a “bench” decision immediately following the Hearing or he/she may elect to only issue a written decision, said decision must be issued within two (2) business days subsequent to the completion of the Hearing. Copies of all notices, pleadings, supporting memoranda, decisions, etc. shall be provided to all disputing parties and the Illinois State Federation of Labor.

Any written decision shall be in accordance with this Process and shall be final and binding upon all parties to the dispute and may be a “short form” decision. Fees and costs of the arbitrator shall be divided evenly between the contesting parties except that any party wishing a full opinion and decision beyond the short form decision shall bear the reasonable fees and costs of such full opinion. The decision of the Arbitrator shall be final and binding upon the parties hereto, their members, and affiliates.

In cases of jurisdictional disputes or other disputes between a signatory labor organization and another labor organization, both of which is an affiliate or member of the same International Union, the matter or dispute shall be settled in the manner set forth by their International Constitution and/or as determined by the International Union’s General President whose decision shall be final and binding upon all parties. In no event shall there be an abandonment of work.

- 6.9 In rendering a decision, the Arbitrator shall determine:
- (a) First, whether a previous agreement of record or applicable agreement, including a disclaimer agreement, between National or International Unions to the dispute or agreements between local unions involved in the dispute, governs;
 - (b) Only if the Arbitrator finds that the dispute is not covered by an appropriate or applicable agreement of record or agreement between the crafts to the dispute, he shall then consider the established trade practice in the industry and prevailing practice in the locality. Where there is a previous decision of record governing the case, the Arbitrator shall give equal weight to such decision of record, unless the prevailing practice in the locality in the past ten years favors one craft. In that case, the Arbitrator shall base his decision on the prevailing practice in the locality. Except, that if the Arbitrator finds that a craft has improperly obtained the prevailing practice in the locality through raiding, the undercutting of wages or by the use of vertical agreements, the Arbitrator shall rely on the decision of record and established trade practice in the industry rather than the prevailing practice in the locality; and,

- (c) Only if none of the above criteria is found to exist, the Arbitrator shall then consider that because efficiency, cost or continuity and good management are essential to the well being of the industry, the interests of the consumer or the past practices of the employer shall not be ignored.
 - (d) The arbitrator is not authorized to award back pay or any other damages for a mis-assignment of work. Nor may any party bring an independent action for back pay or any other damages, based upon a decision of an arbitrator.
- 6.10 The Arbitrator shall set forth the basis for his/her decision and shall explain his/her findings regarding the applicability of the above criteria. If lower ranked criteria are relied upon, the Arbitrator shall explain why the higher-ranked criteria were not deemed applicable. The Arbitrator's decision shall only apply to the Project. Agreements of Record, for other PLA projects, are applicable only to those parties signatory to such agreements. Decisions of Record are those that were either attested to by the former Impartial Jurisdictional Disputes Board or adopted by the National Arbitration Panel.
- 6.11 All interested parties, as determined by the Arbitrator, shall be entitled to make presentations to the Arbitrator. Any interested labor organization affiliated to the PLA Committee and party present at the Hearing, whether making a presentation or not, by such presence shall be deemed to accept the jurisdiction of the Arbitrator and to agree to be bound by its decision. In addition to the representative of the local labor organization, a representative of the labor organization's International Union may appear on behalf of the parties. Each party is responsible for arranging for its witnesses. In the event an Arbitrator's subpoena is required, the party requiring said subpoena shall prepare the subpoena for the Arbitrator to execute. Service of the subpoena upon any witness shall be the responsibility of the issuing party.

Attorneys shall not be permitted to attend or participate in any portion of a Hearing.

The parties are encouraged to determine, prior to Hearing, documentary evidence which may be presented to the Arbitrator on a joint basis.

- 6.12 The Order of Presentation in all Hearings before an Arbitrator shall be
- I. Identification and Stipulation of the Parties
 - II. Unions(s) claiming the disputed work presents its case
 - III. Union(s) assigned the disputed work presents its case
 - IV. Employer assigning the disputed work presents its case
 - V. Evidence from other interested parties (i.e., general contractor, project manager, owner)
 - VI. Rebuttal by union(s) claiming the disputed work
 - VII. Additional submissions permitted and requested by Arbitrator
 - VIII. Closing arguments by the parties

- 6.13 All parties bound to the provisions of this Process hereby release the Illinois State Federation of Labor and IDOT, their respective officers, agents, employees or designated representatives, specifically including any Arbitrator participating in said Process, from any and all liability or claim, of whatsoever nature, and specifically incorporating the protections provided in the Illinois Arbitration Act, as amended from time to time.
- 6.14 The Process, as an arbitration panel, nor its Administrator, shall have any authority to undertake any action to enforce its decision(s). Rather, it shall be the responsibility of the prevailing party to seek appropriate enforcement of a decision, including findings, orders or awards of the Arbitrator or Administrator determining non-compliance with a prior award or decision.
- 6.15 If at any time there is a question as to the jurisdiction of the Illinois Jurisdictional Dispute Resolution Process, the primary responsibility for any determination of the arbitrability of a dispute and the jurisdiction of the Arbitrator shall be borne by the party requesting the Arbitrator to hear the underlying jurisdictional dispute. The affected party or parties may proceed before the Arbitrator even in the absence or one or more stipulated parties with the issue of jurisdiction as an additional item to be decided by the Arbitrator. The Administrator may participate in proceedings seeking a declaration or determination that the underlying dispute is subject to the jurisdiction and process of the Illinois Jurisdictional Dispute Resolution Process. In any such proceedings, the non-prevailing party and/or the party challenging the jurisdiction of the Illinois Jurisdictional Dispute Resolution Process shall bear all the costs, expenses and attorneys' fees incurred by the Illinois Jurisdictional Dispute Resolution Process and/or its Administrator in establishing its jurisdiction.

ARTICLE VII - WORK STOPPAGES AND LOCKOUTS

- 7.1 During the term of this PLA, no Union or any of its members, officers, stewards, employees, agents or representatives shall instigate, support, sanction, maintain, or participate in any strike, picketing, walkout, work stoppage, slow down or other activity that interferes with the routine and timely prosecution of work at the Project site or at any other contractor's or supplier's facility that is necessary to performance of work at the Project site. Hand billing at the Project site during the designated lunch period and before commencement or following conclusion of the established standard workday shall not, in itself, be deemed an activity that interferes with the routine and timely prosecution of work on the Project.

7.2 Should any activity prohibited by paragraph 7.1 of this Article occur, the Union shall undertake all steps reasonably necessary to promptly end such prohibited activities.

7.2.A No Union complying with its obligations under this Article shall be liable for acts of employees for which it has no responsibility or for the unauthorized acts of employees it represents. Any employee who participates or encourages any activity prohibited by paragraph 7.1 shall be immediately suspended from all work on the Project for a period equal to the greater of (a) 60 days; or (b) the maximum disciplinary period allowed under the applicable collective bargaining agreement for engaging in comparable unauthorized or prohibited activity.

7.2.B Neither the PLA Committee nor its affiliates shall be liable for acts of employees for which it has no responsibility. The principal officer or officers of the PLA Committee will immediately instruct, order and use the best efforts of his office to cause the affiliated union or unions to cease any violations of this Article. The PLA Committee in its compliance with this obligation shall not be liable for acts of its affiliates. The principal officer or officers of any involved affiliate will immediately instruct, order or use the best effort of his office to cause the employees the union represents to cease any violations of this Article. A union complying with this obligation shall not be liable for unauthorized acts of employees it represents. The failure of the Contractor to exercise its rights in any instance shall not be deemed a waiver of its rights in any other instance.

During the term of this PLA, the Prime Contractor and its Subcontractors shall not engage in any lockout at the Project site of employees covered by this Agreement.

7.3 Upon notification of violations of this Article, the principal officer or officers of the local area Building and Construction Trades Council, and the Illinois AFL-CIO Statewide Project Labor Agreement Committee as appropriate, will immediately instruct, order and use their best efforts to cause the affiliated union or unions to cease any violations of this Article. A Trades Council and the Committee otherwise in compliance with the obligations under this paragraph shall not be liable for unauthorized acts of its affiliates.

7.4 In the event that activities in violation of this Article are not immediately halted through the efforts of the parties, any aggrieved party may invoke the special arbitration provisions set forth in paragraph 7.5 of this Article.

- 7.5 Upon written notice to the other involved parties by the most expeditious means available, any aggrieved party may institute the following special arbitration procedure when a breach of this Article is alleged:
- 7.5.A The party invoking this procedure shall notify the individual designated as the Permanent Arbitrator pursuant to paragraph 6.8 of the nature of the alleged violation; such notice shall be by the most expeditious means possible. The initiating party may also furnish such additional factual information as may be reasonably necessary for the Permanent Arbitrator to understand the relevant circumstances. Copies of any written materials provided to the arbitrator shall also be contemporaneously provided by the most expeditious means possible to the party alleged to be in violation and to all other involved parties.
 - 7.5.B Upon receipt of said notice the Permanent Arbitrator shall set and hold a hearing within twenty-four (24) hours if it is contended the violation is ongoing, but not before twenty-four (24) hours after the written notice to all parties involved as required above.
 - 7.5.C The Permanent Arbitrator shall notify the parties by facsimile or any other effective written means, of the place and time chosen by the Permanent Arbitrator for this hearing. Said hearing shall be completed in one session. A failure of any party or parties to attend said hearing shall not delay the hearing of evidence or issuance of an Award by the Permanent Arbitrator.
 - 7.5.D The sole issue at the hearing shall be whether a violation of this Article has, in fact, occurred. An Award shall be issued in writing within three (3) hours after the close of the hearing, and may be issued without a written opinion. If any party desires a written opinion, one shall be issued within fifteen (15) days, but its issuance shall not delay compliance with, or enforcement of, the Award. The Permanent Arbitrator may order cessation of the violation of this Article, and such Award shall be served on all parties by hand or registered mail upon issuance.
 - 7.5.E Such Award may be enforced by any court of competent jurisdiction upon the filing of the Award and such other relevant documents as may be required. Facsimile or other hardcopy written notice of the filing of such enforcement proceedings shall be given to the other relevant parties. In a proceeding to obtain a temporary order enforcing the Permanent Arbitrator's Award as issued under this Article, all parties waive the right to a hearing and agree that such proceedings may be ex parte. Such agreement does not waive any party's right to participate in a hearing for a final order of enforcement. The Court's order or orders enforcing the Permanent Arbitrator's Award shall be served on all parties by hand or by delivery to their last known address or by registered mail.

- 7.6 Individuals found to have violated the provisions of this Article are subject to immediate termination. In addition, IDOT reserves the right to terminate this PLA as to any party found to have violated the provisions of this Article.
- 7.7 Any rights created by statute or law governing arbitration proceedings inconsistent with the above procedure or which interfere with compliance therewith are hereby waived by parties to whom they accrue.
- 7.8 The fees and expenses of the Permanent Arbitrator shall be borne by the party or parties found in violation, or in the event no violation is found, such fees and expenses shall be borne by the moving party.

ARTICLE VIII – TERMS OF AGREEMENT

- 8.1 If any Article or provision of this Agreement shall be declared invalid, inoperative or unenforceable by operation of law or by any of the above mentioned tribunals of competent jurisdiction, the remainder of this Agreement or the application of such Article or provision to persons or circumstances other than those as to which it has been held invalid, inoperative or unenforceable shall not be affected thereby.
- 8.2 This Agreement shall be in full force as of and from the date of the Notice of Award until the Project contract is closed.
- 8.3 This PLA may not be changed or modified except by the subsequent written agreement of the parties. All parties represent that they have the full legal authority to enter into this PLA. This PLA may be executed by the parties in one or more counterparts.
- 8.4 Any liability arising out of this PLA shall be several and not joint. IDOT shall not be liable to any person or other party for any violation of this PLA by any other party, and no Contractor or Union shall be liable for any violation of this PLA by any other Contractor or Union.
- 8.5 The failure or refusal of a party to exercise its rights hereunder in one or more instances shall not be deemed a waiver of any such rights in respect of a separate instance of the same or similar nature.

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Addendum A

IDOT Slate of Permanent Arbitrators

1. Bruce Feldacker
2. Thomas F. Gibbons
3. Edward J. Harrick
4. Brent L. Motchan
5. Robert Perkovich
6. Byron Yaffee
7. Glenn A. Zipp

Execution Page

Illinois Department of Transportation

Stephen Travia, Director of Highways Project Implementation

Vicki L. Wilson, Director of Finance & Administration

Yangu Kim, Chief Counsel

Omer Osman, Secretary

(Date)

Illinois AFL-CIO Statewide Project Labor Agreement Committee, representing the Unions listed below:

(Date)

List Unions:

Exhibit A - Contractor Letter of Assent

(Date)

To All Parties:

In accordance with the terms and conditions of the contract for Construction Work on [Contract No.], this Letter of Assent hereby confirms that the undersigned Prime Contractor or Subcontractor agrees to be bound by the terms and conditions of the Project Labor Agreement established and entered into by the Illinois Department of Transportation in connection with said Project.

It is the understanding and intent of the undersigned party that this Project Labor Agreement shall pertain only to the identified Project. In the event it is necessary for the undersigned party to become signatory to a collective bargaining agreement to which it is not otherwise a party in order that it may lawfully make certain required contributions to applicable fringe benefit funds, the undersigned party hereby expressly conditions its acceptance of and limits its participation in such collective bargaining agreement to its work on the Project.

(Authorized Company Officer)

(Company)

SWPPP



Storm Water Pollution Prevention Plan



Route	Marked Route	Section Number
FAI 39 & FAP 525	I-39 & US 20	(5)RS & (5&5HB)RC
Project Number	County	Contract Number
NHPP-6QNF(571)	Winnebago	64R71

This plan has been prepared to comply with the provisions of the National Pollutant Discharge Elimination System (NPDES) Permit No. ILR10 (Permit ILR10), issued by the Illinois Environmental Protection Agency (IEPA) for storm water discharges from construction site activities.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature	Date
	10-16-23

Print Name	Title	Agency
Ahmad Masood	Regional Engineer	Division of Highways/District 2

Note: Guidance on preparing each section of BDE 2342 can be found in Chapter 41 of the IDOT Bureau of Design and Environment (BDE) Manual. Chapter 41 and this form also reference the IDOT Drainage Manual which should be readily available.

I. Site Description:

A. Provide a description of the project location; include latitude and longitude, section, town, and range:

I-39/Harrison Ave Interchange southeast of Rockford, Sections 01,02,35 and 36, Townships 43 and 44 North, Range 2 East, starting at 42° 13'52.98"N, 88° 58'27.33"W and ending at 42° 14'56.65"N, 88° 57'43.31"W.

B. Provide a description of the construction activity which is the subject of this plan. Include the number of construction stages, drainage improvements, in-stream work, installation, maintenance, removal of erosion measures, and permanent stabilization:

This project includes reconstructing the I-39/US-20 and Harrison Ave/US-20 Interchange, including ramps and intersecting roads. This includes the removal of existing pavement, designing new ramps/intersections, drainage systems, ponds, and regrading. 4 stages of MOT are anticipated. There is no anticipated in-stream work, erosion control measures will include perimeter erosion control barriers, erosion control blankets, temporary seeding, inlet protection, riprap protection, and ditch checks. Permanent stabilization will include reseeding and turf reinforcement mat where necessary in disturbed areas.

C. Provide the estimated duration of this project:

Estimated construction time is 14 months

D. The total area of the construction site is estimated to be 462.1 acres.

The total area of the site estimated to be disturbed by excavation, grading or other activities is 462.1 acres.

E. The following are weighted averages of the runoff coefficient for this project before and after construction activities are completed; see Section 4-102 of the IDOT Drainage Manual:

Existing CN=79.4, Proposed CN=78.4

F. List all soils found within project boundaries; include map unit name, slope information, and erosivity:

See Attached.

G. If wetlands were delineated for this project, provide an extent of wetland acreage at the site; see Phase I report:

See Attached.

H. Provide a description of potentially erosive areas associated with this project:

At outlets, ditches, along steeper sloped areas (steeper than 3:1 slope), and with higher velocities.

I. The following is a description of soil disturbing activities by stages, their locations, and their erosive factors (e.g., steepness of slopes, length of slopes, etc.):

The regrading of the project site to support the new ponds, roadway and removal of the existing pavement will cause the most disturbance, and all of these activities occur along various slope depths and lengths. Few of the sloped areas are steeper than 3:1, and areas that are will have turf reinforcement mat as a permanent protection installation.

J. See the erosion control plans and/or drainage plans for this contract for information regarding drainage patterns, approximate slopes anticipated before and after major grading activities, locations where vehicles enter or exit the site and controls to prevent offsite sediment tracking (to be added after contractor identifies locations), areas of soil disturbance, the location of major structural and non-structural controls identified in the plan, the location of areas where stabilization practices are expected to occur, surface waters (including wetlands), and locations where storm water is discharged to surface water including wetlands.

K. Identify who owns the drainage system (municipality or agency) this project will drain into:

State of Illinois and Village of Cherry Valley (Harrison Ave)

L. The following is a list of General NPDES ILR40 permittees within whose reporting jurisdiction this project is located:

Cherry Valley Township, Winnebago County, Village of Cherry Valley

M. The following is a list of receiving water(s) and the ultimate receiving water(s) for this site. In addition, include receiving waters that are listed as Biologically Significant Streams by the Illinois Department of Natural Resources (IDNR). The location of the receiving waters can be found on the erosion and sediment control plans:

There are various unnamed streams throughout the project area, that ultimately lead to the Kishwaukee River. There are no Biologically Significant Streams within the project limits.

N. Describe areas of the site that are to be protected or remain undisturbed. These areas may include steep slopes (i.e., 1:3 or steeper), highly erodible soils, streams, stream buffers, specimen trees, natural vegetation, nature preserves, etc. Include any commitments or requirements to protect adjacent wetlands.

For any storm water discharges from construction activities within 50-feet of Waters of the U.S. (except for activities for water-dependent structures authorized by a Section 404 permit, describe: a) How a 50-foot undisturbed natural buffer will be provided between the construction activity and the Waters of the U.S. or b) How additional erosion and sediment controls will be provided within that area.

Graded areas that are flatter than 1:3 will be protected with erosion control blanket and areas steeper than 1:3 will be protected with Turf Reinforcement Mat, ditches will be protected with ditch checks. There are no areas of construction activities that fall within 50-feet of Waters of the U.S. Wetlands were identified at several crossings beneath the roadway.

O. Per the Phase I document, the following sensitive environmental resources are associated with this project and may have the potential to be impacted by the proposed development. Further guidance on these resources is available in Section 41-4 of the BDE Manual.

N/A

303(d) Listed receiving waters for suspended solids, turbidity, or siltation.
The name(s) of the listed water body, and identification of all pollutants causing impairment:

Kishwaukee River ILPQ12 Mercury, PCBs, Fecal Coliform

Provide a description of how erosion and sediment control practices will prevent a discharge of sediment resulting from a storm event equal to or greater than a twenty-five (25) year, twenty-four (24) hour rainfall event:

The erosion control barrier, ditch checks, and inlet protection will intercept the sediment and filter it out before the stormwater is conveyed downstream and exits the construction zone. Temporary seeding will be placed to stabilize disturbed areas and maintained during construction activities, until final seeding is established.

Provide a description of the location(s) of direct discharge from the project site to the 303(d) water body:

There is no direct discharge from the site to the Kishwaukee River. Discharge from the site will flow through existing ditches, streams and creeks until it reaches the Kishwaukee River.

Provide a description of the location(s) of any dewatering discharges to the MS4 and/or water body:

N/A

Applicable Federal, Tribal, State, or Local Programs

N/A

Floodplain

See Attached.

Historic Preservation

N/A

Receiving waters with Total Maximum Daily Load (TMDL) for sediment, total suspended solids, turbidity or siltation
TMDL (fill out this section if checked above)

The name(s) of the listed water body:

N/A

Provide a description of the erosion and sediment control strategy that will be incorporated into the site design that is consistent with the assumptions and requirements of the TMDL:

N/A

If a specific numeric waste load allocation has been established that would apply to the project's discharges, provide a description of the necessary steps to meet that allocation:

N/A

Threatened and Endangered Species/Illinois Natural Areas (INA)/Nature Preserves

Rusty Patched Bumble Bees, See Attached.

Other

N/A

Wetland

See Attached.

P. The following pollutants of concern will be associated with this construction project:

- | | |
|--|---|
| <input checked="" type="checkbox"/> Antifreeze / Coolants | <input checked="" type="checkbox"/> Solid Waste Debris |
| <input checked="" type="checkbox"/> Concrete | <input checked="" type="checkbox"/> Solvents |
| <input checked="" type="checkbox"/> Concrete Curing Compounds | <input checked="" type="checkbox"/> Waste water from cleaning construction equipments |
| <input checked="" type="checkbox"/> Concrete Truck Waste | <input type="checkbox"/> Other (Specify) _____ |
| <input checked="" type="checkbox"/> Fertilizers / Pesticides | <input type="checkbox"/> Other (Specify) _____ |
| <input checked="" type="checkbox"/> Paints | <input type="checkbox"/> Other (Specify) _____ |
| <input checked="" type="checkbox"/> Petroleum (gas, diesel, oil, kerosene, hydraulic oil / fluids) | <input type="checkbox"/> Other (Specify) _____ |
| <input checked="" type="checkbox"/> Soil Sediment | <input type="checkbox"/> Other (Specify) _____ |

II. Controls:

This section of the plan addresses the controls that will be implemented for each of the major construction activities described in Section I.C above and for all use areas, borrow sites, and waste sites. For each measure discussed, the Contractor will be responsible for its implementation as indicated. The Contractor shall provide to the Resident Engineer a plan for the implementation of the measures indicated. The Contractor, and subcontractors, will notify the Resident Engineer of any proposed changes, maintenance, or modifications to keep construction activities compliant with the Permit ILR10. Each such Contractor has signed the required certification on forms which are attached to, and are a part of, this plan:

A. Erosion and Sediment Controls: At a minimum, controls must be coordinated, installed and maintained to:

1. Minimize the amount of soil exposed during construction activity;
2. Minimize the disturbance of steep slopes;
3. Maintain natural buffers around surface waters, direct storm water to vegetated areas to increase sediment removal and maximize storm water infiltration, unless infeasible;
4. Minimize soil compaction and, unless infeasible, preserve topsoil.

B. Stabilization Practices: Provided below is a description of interim and permanent stabilization practices, including site- specific scheduling of the implementation of the practices. Site plans will ensure that existing vegetation is preserved where attainable and disturbed portions of the site will be stabilized. Stabilization practices may include but are not limited to: temporary seeding, permanent seeding, mulching, geotextiles, sodding, vegetative buffer strips, protection of trees, preservation of mature vegetation, and other appropriate measures. Except as provided below in II.B.1 and II.B.2, stabilization measures shall be initiated **immediately** where construction activities have temporarily or permanently ceased, but in no case more than **one (1) day** after the construction activity in that portion of the site has temporarily or permanently ceases on all disturbed portions of the site where construction will not occur for a period of fourteen (14) or more calendar days.

1. Where the initiation of stabilization measures is precluded by snow cover, stabilization measures shall be initiated as soon as practicable.
2. On areas where construction activity has temporarily ceased and will resume after fourteen (14) days, a temporary stabilization method can be used.

The following stabilization practices will be used for this project:

- | | |
|--|--|
| <input checked="" type="checkbox"/> Erosion Control Blanket / Mulching | <input type="checkbox"/> Temporary Turf (Seeding, Class 7) |
| <input type="checkbox"/> Geotextiles | <input checked="" type="checkbox"/> Temporary Mulching |
| <input checked="" type="checkbox"/> Permanent Seeding | <input type="checkbox"/> Vegetated Buffer Strips |
| <input checked="" type="checkbox"/> Preservation of Mature Seeding | <input checked="" type="checkbox"/> Other (Specify) <u>Turf Reinforcement Mat</u> |
| <input checked="" type="checkbox"/> Protection of Trees | <input checked="" type="checkbox"/> Other (Specify) <u>Washout Basin</u> |
| <input type="checkbox"/> Sodding | <input checked="" type="checkbox"/> Other (Specify) <u>Stabilized Construction Entrances</u> |
| <input checked="" type="checkbox"/> Temporary Erosion Control Seeding | <input type="checkbox"/> Other (Specify) _____ |

Describe how the stabilization practices listed above will be utilized during construction:

Stabilization practices will be implemented throughout the various MOT stages until permanent seeding is attained.

Describe how the stabilization practices listed above will be utilized after construction activities have been completed:

The permanent seeding will be installed upon completion of each construction zone.

C. **Structural Practices:** Provided below is a description of structural practices that will be implemented, to the degree attainable, to divert flows from exposed soils, store flows or otherwise limit runoff and the discharge of pollutants from exposed areas of the site. Such practices may include but are not limited to: perimeter erosion barrier, earth dikes, drainage swales, sediment traps, ditch checks, subsurface drains, pipe slope drains, level spreaders, storm drain inlet protection, rock outlet protection, reinforced soil retaining systems, gabions, and temporary or permanent sediment basins. The installation of these devices may be subject to Section 404 of the Clean Water Act.

- | | |
|--|---|
| <input checked="" type="checkbox"/> Aggregate Ditch | <input checked="" type="checkbox"/> Stabilized Construction Exits |
| <input type="checkbox"/> Concrete Revetment Mats | <input type="checkbox"/> Stabilized Trench Flow |
| <input checked="" type="checkbox"/> Dust Suppression | <input type="checkbox"/> Slope Mattress |
| <input type="checkbox"/> Dewatering Filtering | <input type="checkbox"/> Slope Walls |
| <input type="checkbox"/> Gabions | <input checked="" type="checkbox"/> Temporary Ditch Check |
| <input type="checkbox"/> In-Stream or Wetland Work | <input type="checkbox"/> Temporary Pipe Slope Drain |
| <input type="checkbox"/> Level Spreaders | <input type="checkbox"/> Temporary Sediment Basin |
| <input type="checkbox"/> Paved Ditch | <input type="checkbox"/> Temporary Stream Crossing |
| <input type="checkbox"/> Permanent Check Dams | <input checked="" type="checkbox"/> Turf Reinforcement Mats |
| <input checked="" type="checkbox"/> Perimeter Erosion Barrier | <input type="checkbox"/> Other (Specify) _____ |
| <input type="checkbox"/> Permanent Sediment Basin | <input type="checkbox"/> Other (Specify) _____ |
| <input type="checkbox"/> Retaining Walls | <input type="checkbox"/> Other (Specify) _____ |
| <input checked="" type="checkbox"/> Riprap | <input type="checkbox"/> Other (Specify) _____ |
| <input checked="" type="checkbox"/> Rock Outlet Protection | <input type="checkbox"/> Other (Specify) _____ |
| <input type="checkbox"/> Sediment Trap | <input type="checkbox"/> Other (Specify) _____ |
| <input checked="" type="checkbox"/> Storm Drain Inlet Protection | <input type="checkbox"/> Other (Specify) _____ |

Describe how the structural practices listed above will be utilized during construction:

Prior to construction the temporary erosion control items will be installed and maintained during construction.

Describe how the structural practices listed above will be utilized after construction activities have been completed:

Post construction and after the establishment of any permanent erosion control features, the temporary structural practices will be removed.

D. **Treatment Chemicals**

Will polymer flocculants or treatment chemicals be utilized on this project: Yes No

If yes above, identify where and how polymer flocculants or treatment chemicals will be utilized on this project.

N/A

E. **Permanent (i.e., Post-Construction) Storm Water Management Controls:** Provided below is a description of measures that will be installed during the construction process to control volume and pollutants in storm water discharges that will occur after construction operations have been completed. The installation of these devices may be subject to Section 404 of the Clean Water Act.

- Such practices may include but are not limited to: storm water detention structures (including wet ponds), storm water retention structures, flow attenuation by use of open vegetated swales and natural depressions, infiltration of runoff on site, and sequential systems (which combine several practices).

The practices selected for implementation were determined based on the technical guidance in Chapter 41 (Construction Site Storm Water Pollution Control) of the IDOT BDE Manual. If practices other than those discussed in Chapter 41 are selected for implementation or if practices are applied to situations different from those covered in Chapter 41, the technical basis for such decisions will be explained below.

- Velocity dissipation devices will be placed at discharge locations and along the length of any outfall channel as necessary to provide a non-erosive velocity flow from the structure to a water course so that the natural physical and biological characteristics and functions are maintained and protected (e.g., maintenance of hydrologic conditions such as the hydroperiod and hydrodynamics present prior to the initiation of construction activities).

Description of permanent storm water management controls:

Riprap outlet protection, riprap lined ditches, paved ditches, culverts, storm underdrains, and ponds will be installed as permanent storm water management controls.

F. **Approved State or Local Laws:** The management practices, controls and provisions contained in this plan will be in accordance with IDOT specifications, which are at least as protective as the requirements contained in the IEPA's Illinois Urban Manual. Procedures and requirements specified in applicable sediment and erosion site plans or storm water management plans approved by local officials shall be described or incorporated by reference in the space provided below. Requirements specified in sediment and erosion site plans, site permits, storm water management site plans or site permits approved by local officials that are applicable to protecting surface water resources are, upon submittal of an NOI, to be authorized to discharge under the Permit ILR10 incorporated by reference and are enforceable under this permit even if they are not specifically included in the plan.

Description of procedures and requirements specified in applicable sediment and erosion site plans or storm water management plans approved by local officials:

All management plans and practices, controls, and other provisions in these plans are in accordance with "IDOT Standard Specifications for Road and Bridge Construction" and the "Illinois Urban Manual"

G. **Contractor Required Submittals:** Prior to conducting any professional services at the site covered by this plan, the Contractor and each subcontractor responsible for compliance with the permit shall submit to the Resident Engineer a Contractor Certification Statement, BDE 2342A.

1. The Contractor shall provide a construction schedule containing an adequate level of detail to show major activities with implementation of pollution prevention BMPs, including the following items:

- Approximate duration of the project, including each stage of the project
- Rainy season, dry season, and winter shutdown dates
- Temporary stabilization measures to be employed by contract phases
- Mobilization time-frame
- Mass clearing and grubbing/roadside clearing dates
- Deployment of Erosion Control Practices
- Deployment of Sediment Control Practices (including stabilized cons

- Deployment of Construction Site Management Practices (including concrete washout facilities, chemical storage, refueling locations, etc.)
- Paving, saw-cutting, and any other pavement related operations
- Major planned stockpiling operation
- Time frame for other significant long-term operations or activities that may plan non-storm water discharges as dewatering, grinding, etc
- Permanent stabilization activities for each area of the project

2. During the pre-construction meeting, the Contractor and each subcontractor shall provide, as an attachment to their signed Contractor Certification Statement, a discussion of how they will comply with the requirements of the permit in regard to the following items and provide a graphical representation showing location and type of BMPs to be used when applicable:

- Temporary Ditch Checks - Identify what type and the source of Temporary Ditch Checks that will be installed as part of the project. The installation details will then be included with the SWPPP.
- Vehicle Entrances and Exits - Identify type and location of stabilized construction entrances and exits to be used and how they will be maintained.
- Material Delivery, Storage and Use - Discuss where and how materials including chemicals, concrete curing compounds, petroleum products, etc. will be stored for this project.
- Stockpile Management - Identify the location of both on-site and off-site stockpiles. Discuss what BMPs will be used to prevent pollution of storm water from stockpiles.
- Waste Disposal - Discuss methods of waste disposal that will be used for this project.
- Spill Prevention and Control - Discuss steps that will be taken in the event of a material spill (chemicals, concrete curing compounds, petroleum, etc.)
- Concrete Residuals and Washout Wastes - Discuss the location and type of concrete washout facilities to be used on this project and how they will be signed and maintained.
- Litter Management - Discuss how litter will be maintained for this project (education of employees, number of dumpsters, frequency of dumpster pick-up, etc.).
- Vehicle and Equipment Fueling - Identify equipment fueling locations for this project and what BMPs will be used to ensure containment and spill prevention.
- Vehicle and Equipment Cleaning and Maintenance - Identify where equipment cleaning and maintenance locations for this project and what BMPs will be used to ensure containment and spill prevention.
- Dewatering Activities - Identify the controls which will be used during dewatering operations to ensure sediments will not leave the construction site.
- Polymer Flocculants and Treatment Chemicals - Identify the use and dosage of treatment chemicals and provide the Resident Engineer with Material Safety Data Sheets. Describe procedures on how the chemicals will be used and

identify who will be responsible for the use and application of these chemicals. The selected individual must be trained on the established procedures.
Additional measures indicated in the plan.

III. Maintenance:

When requested by the Contractor, the Resident Engineer will provide general maintenance guides (e.g., IDOT Erosion and Sediment Control Field Guide) to the Contractor for the practices associated with this project. Describe how all items will be checked for structural integrity, sediment accumulation and functionality. Any damage or undermining shall be repaired immediately. Provide specifics on how repairs will be made. The following additional procedures will be used to maintain, in good and effective operating conditions, the vegetation, erosion and sediment control measures and other protective measures identified in this plan. It will be the Contractor's responsibility to attain maintenance guidelines for any manufactured BMPs which are to be installed and maintained per manufacturer's specifications.

All maintenance will be required to be completed pursuant to the requirements of the IDOT Erosion and Sediment Control Field Guide and the Illinois Urban Manual. Erosion control measures will be checked pursuant to NPDES guidelines.

IV. Inspections:

Qualified personnel shall inspect disturbed areas of the construction site including Borrow, Waste, and Use Areas, which have not yet been finally stabilized, structural control measures, and locations where vehicles and equipment enter and exit the site using IDOT Storm Water Pollution Prevention Plan Erosion Control Inspection Report, BC 2259. Such inspections shall be conducted at least once every seven (7) calendar days and within twenty-four (24) hours of the end of a storm or by the end of the following business or work day that is 0.5 inch or greater or equivalent snowfall.

Inspections may be reduced to once per month when construction activities have ceased due to frozen conditions. Weekly inspections will recommence when construction activities are conducted, or if there is 0.5" or greater rain event, or a discharge due to snowmelt occurs.

If any violation of the provisions of this plan is identified during the conduct of the construction work covered by this plan, the Resident Engineer shall notify the appropriate IEPA Field Operations Section office by email at: epa.swnoncomp@illinois.gov, telephone or fax within twenty-four (24) hours of the incident. The Resident Engineer shall then complete and submit an "Incidence of Non-Compliance" (ION) report for the identified violation within five (5) days of the incident. The Resident Engineer shall use forms provided by IEPA and shall include specific information on the cause of noncompliance, actions which were taken to prevent any further causes of noncompliance, and a statement detailing any environmental impact which may have resulted from the noncompliance. All reports of non-compliance shall be signed by a responsible authority in accordance with Part VI. G of the Permit ILR10.

The Incidence of Non-Compliance shall be mailed to the following address:
Illinois Environmental Protection Agency
Division of Water Pollution Control
Attn: Compliance Assurance Section
1021 North Grand East
Post Office Box 19276
Springfield, Illinois 62794-9276

V. Failure to Comply:

Failure to comply with any provisions of this Storm Water Pollution Prevention Plan will result in the implementation of a National Pollutant Discharge Elimination System/Erosion and Sediment Control Deficiency Deduction against the Contractor and/or penalties under the Permit ILR10 which could be passed on to the Contractor.

RUNOFF COEFFICIENT CALCULATION

FAI 39 (I-39) & FAP 525 (US 20)
 Section (5)RS & (5&5HB)RC
 Project NHPP-6QNF(571)
 Winnebago County
 Contract No. 64R71

I-39, Winnebago County, IL

BY ASF, 6/20/2023

HH Analysis

QC CAR, 6/22/2023

64R71 US20/Harrison Avenue and I-39 Diverging Diamond Interchange
 Weighted CN Calculations

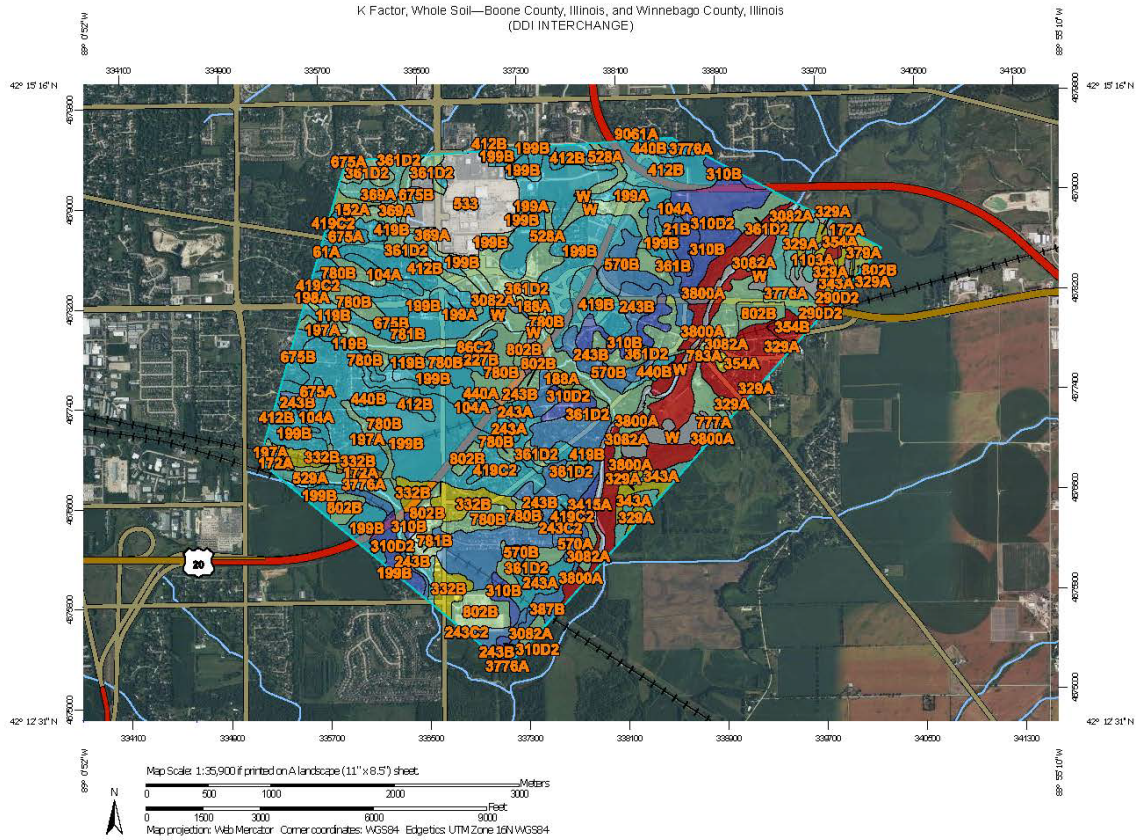
SUMMARY

Total Area (acres) - Existing	391.6
Total Area (acres) - Proposed	462.1
Weighted CN - Existing	79.4
Weighted CN - Proposed	78.4

Basin & Subbasin	EXISTING			PROPOSED		
	CN	Area	CN x A	CN	Area	CN x A
Basin K						
Area K1.1	74.1	3.1	232.7	85.4	1.1	92.7
Area K1.2	92.1	1.5	141.8	91.8	1.6	145.7
Area K1.3	91.5	1.0	86.9	91.7	1.0	91.4
Area K2	72.1	2.3	163.6	-	-	-
Area K3	72.7	4.2	302.5	74.3	5.9	439.1
Area K4	78.9	2.4	186.3	68.8	5.6	386.0
Area K4.1	-	-	-	87.5	2.9	256.4
Area K5	70.7	6.6	467.7	73.2	4.7	342.2
Area K6	75.1	5.3	395.0	74.0	12.2	900.6
Area K7	82.2	232.4	19090.0	81.1	286.5	23235.1
Area K8	90.5	3.2	293.3	90.8	3.3	302.2
Area K9	70.5	7.8	550.5	79.8	10.0	796.3
Area K9.1	-	-	-	70.3	2.3	163.0
Area K9.2	-	-	-	67.7	2.6	173.1
Area K10	74.2	4.9	361.2	84.1	6.2	517.9
Area K10.1	-	-	-	71.3	3.4	241.8
Basin L						
Area L1	84.3	14.2	1193.8	75.1	15.2	1143.6
Area L2	86.2	7.6	657.1	78.8	7.3	575.8
Area L3	73.0	84.6	6179.2	71.1	85.2	6057.3
Area L4	73.8	4.6	341.5	77.8	3.5	272.9
Area L5	79.4	3.4	266.9	-	-	-
Basin P						
Area P1	70.0	2.7	186.3	66.4	1.8	117.6
Totals		391.6	31096.4		462.1	36250.9
		Weighted CN	79.4	Weighted CN	78.4	

SOILS MAP AND K FACTORS (USDA)

FAI 39 (I-39) & FAP 525 (US 20)
 Section (5)RS & (5&5HB)RC
 Project NHPP-6QNF(571)
 Winnebago County
 Contract No. 64R71

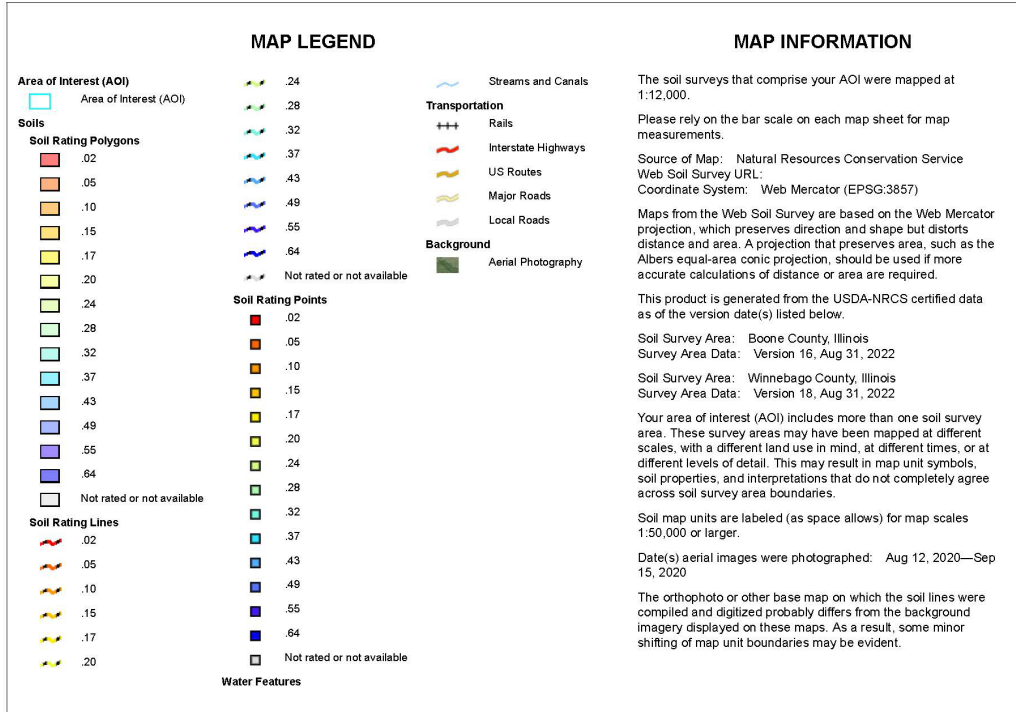


LSDA Natural Resources
 Conservation Service

Web Soil Survey
 National Cooperative Soil Survey

8/4/2023
 Page 1 of 6

K Factor, Whole Soil—Boone County, Illinois, and Winnebago County, Illinois
 (DDI INTERCHANGE)



K Factor, Whole Soil

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
172A	Hoopeston sandy loam, 0 to 2 percent slopes	.10	0.0	0.0%
329A	Will loam, 0 to 2 percent slopes	.17	5.2	0.2%
343A	Kane silt loam, 0 to 2 percent slopes	.32	2.8	0.1%
354A	Hononegah loamy coarse sand, 0 to 2 percent slopes	.02	2.1	0.1%
379A	Dakota loam, 0 to 2 percent slopes	.20	9.4	0.3%
802B	Orthents, loamy, undulating	.37	0.4	0.0%
969E2	Casco-Rodman complex, 12 to 20 percent slopes, eroded	.32	1.8	0.1%
W	Water		3.6	0.1%
Subtotals for Soil Survey Area			25.3	0.8%
Totals for Area of Interest			3,126.3	100.0%

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
21B	Pecatonica silt loam, 2 to 5 percent slopes	.43	3.7	0.1%
61A	Atterberry silt loam, 0 to 2 percent slopes	.37	1.5	0.0%
86C2	Oscos silt loam, 5 to 10 percent slopes, eroded	.37	7.9	0.3%
104A	Virgil silt loam, 0 to 2 percent slopes	.37	81.6	2.6%
119B	Elco silt loam, 2 to 5 percent slopes	.37	26.5	0.8%
152A	Drummer silty clay loam, 0 to 2 percent slopes	.24	7.6	0.2%
172A	Hoopeston sandy loam, 0 to 2 percent slopes	.10	8.8	0.3%
188A	Beardstown loam, 0 to 2 percent slopes	.20	11.2	0.4%
197A	Troxel silt loam, 0 to 2 percent slopes	.28	31.5	1.0%

FAI 39 (I-39) & FAP 525 (US 20)
 Section (5)RS & (5&5HB)RC
 Project NHPP-6QNF(571)
 Winnebago County
 Contract No. 64R71

K Factor, Whole Soil—Boone County, Illinois, and Winnebago County, Illinois

DDI INTERCHANGE

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
198A	Elburn silt loam, cool, 0 to 2 percent slopes	.28	1.6	0.1%
199A	Plano silt loam, 0 to 2 percent slopes	.37	106.1	3.4%
199B	Plano silt loam, 2 to 5 percent slopes	.37	491.5	15.7%
227B	Argyle silt loam, 2 to 5 percent slopes	.37	10.0	0.3%
243A	St. Charles silt loam, 0 to 2 percent slopes	.37	32.7	1.0%
243B	St. Charles silt loam, 2 to 5 percent slopes	.43	227.7	7.3%
243C2	St. Charles silt loam, 5 to 10 percent slopes, eroded	.43	9.0	0.3%
290D2	Warsaw loam, 6 to 12 percent slopes, eroded	.20	0.9	0.0%
310B	McHenry silt loam, 2 to 4 percent slopes	.49	66.1	2.1%
310D2	McHenry silt loam, 6 to 12 percent slopes, eroded	.49	122.8	3.9%
329A	Will loam, 0 to 2 percent slopes	.17	43.0	1.4%
332B	Billet sandy loam, 2 to 5 percent slopes	.17	85.6	2.7%
343A	Kane silt loam, 0 to 2 percent slopes	.32	45.6	1.5%
354A	Hononegah loamy coarse sand, 0 to 2 percent slopes	.02	72.7	2.3%
354B	Hononegah loamy coarse sand, 2 to 6 percent slopes	.02	15.2	0.5%
361B	Kidder loam, 2 to 4 percent slopes	.28	10.7	0.3%
361D2	Kidder loam, 6 to 12 percent slopes, eroded	.28	164.2	5.3%
369A	Waupeca silt loam, 0 to 2 percent slopes	.32	27.7	0.9%
387B	Ockley silt loam, 2 to 5 percent slopes	.43	23.9	0.8%
412B	Ogle silt loam, 2 to 5 percent slopes	.37	131.9	4.2%
419B	Flagg silt loam, 2 to 5 percent slopes	.37	62.9	2.0%

FAI 39 (I-39) & FAP 525 (US 20)
 Section (5)RS & (5&5HB)RC
 Project NHPP-6QNF(571)
 Winnebago County
 Contract No. 64R71

K Factor, Whole Soil—Boone County, Illinois, and Winnebago County, Illinois

DDI INTERCHANGE

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
419C2	Flagg silt loam, 5 to 10 percent slopes, eroded	.37	20.6	0.7%
440A	Jasper silt loam, 0 to 2 percent slopes	.37	4.9	0.2%
440B	Jasper silt loam, 2 to 5 percent slopes	.37	23.3	0.7%
528A	Lahoguess loam, 0 to 2 percent slopes	.28	90.0	2.9%
529A	Selmass loam, 0 to 2 percent slopes	.24	3.5	0.1%
533	Urban land		126.5	4.0%
570A	Martinsville silt loam, 0 to 2 percent slopes	.43	9.4	0.3%
570B	Martinsville silt loam, 2 to 4 percent slopes	.43	70.9	2.3%
570D2	Martinsville silt loam, 6 to 12 percent slopes, eroded	.43	6.9	0.2%
675A	Greenbush silt loam, 0 to 2 percent slopes	.37	22.1	0.7%
675B	Greenbush silt loam, 2 to 5 percent slopes	.37	35.0	1.1%
728C2	Winnebago silt loam, 5 to 10 percent slopes, eroded	.37	3.3	0.1%
777A	Adrian muck, 0 to 2 percent slopes		7.0	0.2%
780B	Grellton fine sandy loam, 2 to 5 percent slopes	.28	112.6	3.6%
781B	Friesland fine sandy loam, 2 to 5 percent slopes	.28	12.8	0.4%
783A	Flagler sandy loam, 0 to 2 percent slopes	.17	3.7	0.1%
802B	Orthents, loamy, undulating	.28	101.8	3.3%
1103A	Houghton muck, undrained, 0 to 2 percent slopes, frequently flooded		12.3	0.4%
1777A	Adrian muck, undrained, 0 to 2 percent slopes, frequently flooded		3.4	0.1%
3082A	Millington silt loam, 0 to 2 percent slopes, frequently flooded	.28	184.2	5.9%

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
3415A	Orion silt loam, 0 to 2 percent slopes, frequently flooded	.49	7.4	0.2%
3776A	Comfrey loam, 0 to 2 percent slopes, frequently flooded	.32	75.9	2.4%
3800A	Psammets, 0 to 2 percent slopes, frequently flooded	.02	156.2	5.0%
9061A	Atterberry silt loam, terrace, 0 to 2 percent slopes	.37	0.9	0.0%
W	Water		74.3	2.4%
Subtotals for Soil Survey Area			3,101.0	99.2%
Totals for Area of Interest			3,126.3	100.0%

Description

Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Factor K is one of six factors used in the Universal Soil Loss Equation (USLE) and the Revised Universal Soil Loss Equation (RUSLE) to predict the average annual rate of soil loss by sheet and rill erosion in tons per acre per year. The estimates are based primarily on percentage of silt, sand, and organic matter and on soil structure and saturated hydraulic conductivity (Ksat). Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water.

"Erosion factor Kw (whole soil)" indicates the erodibility of the whole soil. The estimates are modified by the presence of rock fragments.

Factor K does not apply to organic horizons and is not reported for those layers.

Rating Options

Aggregation Method: Dominant Condition

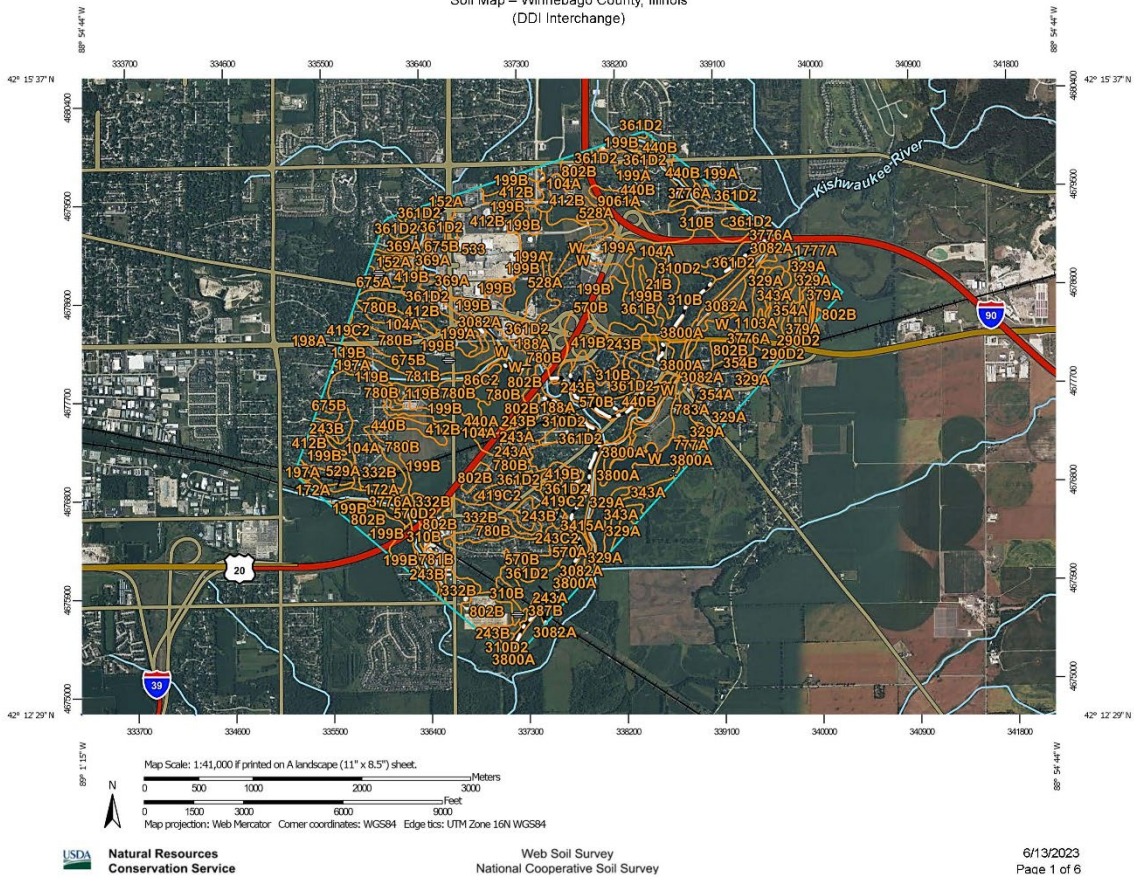
Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Layer Options (Horizon Aggregation Method): Surface Layer (Not applicable)

FAI 39 (I-39) & FAP 525 (US 20)
 Section (5)RS & (5&5HB)RC
 Project NHPP-6QNF(571)
 Winnebago County
 Contract No. 64R71

Soil Map – Winnebago County, Illinois
 (DDI Interchange)



Soil Map – Winnebago County, Illinois
 (DDI Interchange)

MAP LEGEND		MAP INFORMATION
	Area of Interest (AOI)	<p>The soil surveys that comprise your AOI were mapped at 1:12,000.</p> <p>Please rely on the bar scale on each map sheet for map measurements.</p> <p>Source of Map: Natural Resources Conservation Service Web Soil Survey URL: Coordinate System: Web Mercator (EPSG:3857)</p> <p>Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.</p> <p>This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.</p> <p>Soil Survey Area: Boone County, Illinois Survey Area Data: Version 16, Aug 31, 2022</p> <p>Soil Survey Area: Winnebago County, Illinois Survey Area Data: Version 18, Aug 31, 2022</p> <p>Your area of interest (AOI) includes more than one soil survey area. These survey areas may have been mapped at different scales, with a different land use in mind, at different times, or at different levels of detail. This may result in map unit symbols, soil properties, and interpretations that do not completely agree across soil survey area boundaries.</p> <p>Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.</p> <p>Date(s) aerial images were photographed: Aug 12, 2020—Sep 15, 2020</p> <p>The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.</p>
	Soil Map Unit Polygons	
	Soil Map Unit Lines	
	Soil Map Unit Points	
	Special Point	
	Features Blowout	
	Borrow Pit	
	Clay Spot	
	Closed Depression	
	Gravel Pit	
	Gravelly Spot	
	Landfill	
	Lava Flow	
	Marsh or swamp	
	Mine or Quarry	
	Miscellaneous Water	
	Perennial Water	
	Rock Outcrop	
	Saline Spot	
	Sandy Spot	
	Severely Eroded Spot	
	Sinkhole	
	Slide or Slip	
	Sodic Spot	
	Spot Area	
	Stony Spot	
	Very Stony Spot	
	Wet Spot	
	Other	
	Special Line Features	
	Water Features	
	Streams and Canals	
	Transportation	
	Rails	
	Interstate Highways	
	US Routes	
	Major Roads	
	Local Roads	
	Background	
	Aerial Photography	

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
172A	Hoopeston sandy loam, 0 to 2 percent slopes	1.4	0.0%
290D2	Warsaw loam, 6 to 12 percent slopes, eroded	0.2	0.0%
329A	Will loam, 0 to 2 percent slopes	6.8	0.2%
343A	Kane silt loam, 0 to 2 percent slopes	2.9	0.1%
354A	Hononegah loamy coarse sand, 0 to 2 percent slopes	2.4	0.1%
379A	Dakota loam, 0 to 2 percent slopes	15.0	0.4%
802B	Orthents, loamy, undulating	1.0	0.0%
969E2	Casco-Rodman complex, 12 to 20 percent slopes, eroded	2.3	0.1%
1777A	Adrian muck, undrained, 0 to 2 percent slopes, frequently flooded	1.5	0.0%
W	Water	3.8	0.1%
Subtotals for Soil Survey Area		37.1	1.1%
Totals for Area of Interest		3,381.8	100.0%
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
21B	Pecatonica silt loam, 2 to 5 percent slopes	3.7	0.1%
86C2	Osco silt loam, 5 to 10 percent slopes, eroded	7.9	0.2%
104A	Virgil silt loam, 0 to 2 percent slopes	95.4	2.8%
119B	Elco silt loam, 2 to 5 percent slopes	24.2	0.7%
152A	Drummer silty clay loam, 0 to 2 percent slopes	5.5	0.2%
172A	Hoopeston sandy loam, 0 to 2 percent slopes	8.0	0.2%

188A	Beardstown loam, 0 to 2 percent slopes	11.2	0.3%
197A	Troxel silt loam, 0 to 2 percent slopes	39.9	1.2%
198A	Elburn silt loam, cool, 0 to 2 percent slopes	0.6	0.0%
199A	Plano silt loam, 0 to 2 percent slopes	121.4	3.6%

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
199B	Plano silt loam, 2 to 5 percent slopes	500.5	14.8%
227B	Argyle silt loam, 2 to 5 percent slopes	11.2	0.3%
243A	St. Charles silt loam, 0 to 2 percent slopes	32.7	1.0%
243B	St. Charles silt loam, 2 to 5 percent slopes	225.5	6.7%
243C2	St. Charles silt loam, 5 to 10 percent slopes, eroded	8.8	0.3%
290D2	Warsaw loam, 6 to 12 percent slopes, eroded	2.6	0.1%
310B	McHenry silt loam, 2 to 4 percent slopes	87.1	2.6%
310D2	McHenry silt loam, 6 to 12 percent slopes, eroded	129.8	3.8%
329A	Will loam, 0 to 2 percent slopes	46.9	1.4%
332B	Billett sandy loam, 2 to 5 percent slopes	84.6	2.5%
343A	Kane silt loam, 0 to 2 percent slopes	47.3	1.4%
354A	Hononegah loamy coarse sand, 0 to 2 percent slopes	75.9	2.2%
354B	Hononegah loamy coarse sand, 2 to 6 percent slopes	16.0	0.5%
361B	Kidder loam, 2 to 4 percent slopes	10.7	0.3%
361D2	Kidder loam, 6 to 12 percent slopes, eroded	180.7	5.3%
369A	Waupecan silt loam, 0 to 2 percent slopes	25.3	0.7%

387B	Ockley silt loam, 2 to 5 percent slopes	25.1	0.7%
412B	Ogle silt loam, 2 to 5 percent slopes	209.6	6.2%
419B	Flagg silt loam, 2 to 5 percent slopes	62.4	1.8%
419C2	Flagg silt loam, 5 to 10 percent slopes, eroded	12.5	0.4%
440A	Jasper silt loam, 0 to 2 percent slopes	4.9	0.1%
440B	Jasper silt loam, 2 to 5 percent slopes	62.6	1.9%
528A	Lahoguess loam, 0 to 2 percent slopes	90.5	2.7%
529A	Selmass loam, 0 to 2 percent slopes	3.5	0.1%
533	Urban land	139.2	4.1%
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
570A	Martinsville silt loam, 0 to 2 percent slopes	9.4	0.3%
570B	Martinsville silt loam, 2 to 4 percent slopes	70.9	2.1%
570D2	Martinsville silt loam, 6 to 12 percent slopes, eroded	6.9	0.2%
675A	Greenbush silt loam, 0 to 2 percent slopes	17.9	0.5%
675B	Greenbush silt loam, 2 to 5 percent slopes	29.4	0.9%
728C2	Winnebago silt loam, 5 to 10 percent slopes, eroded	3.3	0.1%
777A	Adrian muck, 0 to 2 percent slopes	8.5	0.3%
780B	Grellton fine sandy loam, 2 to 5 percent slopes	112.6	3.3%
781B	Friesland fine sandy loam, 2 to 5 percent slopes	12.8	0.4%
783A	Flagler sandy loam, 0 to 2 percent slopes	3.7	0.1%
802B	Orthents, loamy, undulating	103.0	3.0%

1103A	Houghton muck, undrained, 0 to 2 percent slopes, frequently flooded	14.5	0.4%
1777A	Adrian muck, undrained, 0 to 2 percent slopes, frequently flooded	7.8	0.2%
3082A	Millington silt loam, 0 to 2 percent slopes, frequently flooded	190.9	5.6%
3415A	Orion silt loam, 0 to 2 percent slopes, frequently flooded	7.4	0.2%
3776A	Comfrey loam, 0 to 2 percent slopes, frequently flooded	87.4	2.6%
3800A	Psammets, 0 to 2 percent slopes, frequently flooded	159.9	4.7%
9061A	Atterberry silt loam, terrace, 0 to 2 percent slopes	8.0	0.2%
W	Water	76.9	2.3%
Subtotals for Soil Survey Area		3,344.6	98.9%
Totals for Area of Interest		3,381.8	100.0%

FEMA FLOOD MAPS

National Flood Hazard Layer FIRMette



Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANELAYOUT

SPECIAL FLOOD HAZARD AREAS

- White: Minimum Base Flood Elevation (BFE) 2004 or 2009
- Light Blue: Minimum BFE Elevation Depth 2004 or 2009, on Regularity Floodway
- Orange: 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with average areas of less than one square mile 2004 or 2009
- Dark Orange: Future Conditions 1% Annual Chance Flood Hazard 2004 or 2009
- Light Green: Area with Reduced Flood Risk due to levee, Sec. 1083, 2004 or 2009
- Dark Green: Area with Flood Risk due to levee, 2004 or 2009

OTHER AREAS OF FLOOD HAZARD

- Light Blue: Area of Minimal Flood Hazard 2004 or 2009
- Dark Blue: Effective 10 MFRs
- Light Green: Area of Unincorporated Road Hazard 2004 or 2009

GENERAL STRUCTURES

- Red: Channel, Outfall, or Storm Sewer Levee, Dike, or Restwater
- Blue: Cross Sections with 1% Annual Chance
- Green: Water Surface Elevation
- Black: Coastal Transect
- Red: Base Flood Elevation (BFE)
- Blue: Line of Survey
- Green: Jurisdiction Boundary
- Black: Coastal Transect, Baseline
- Red: Profile Baseline
- Blue: Hydrographic Feature

OTHER FEATURES

- Green: Digital Data Available
- Light Green: No Digital Data Available
- Dark Green: Unmapped

MAP PANELS

- Red: The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not as described below. The basemap shown complies with FEMA's basemap accuracy standards.

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was updated on 03/02/2025 at 09:59 PM, and therefore reflects changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is valid if the date or time of the following map elements does not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unincorporated and unincorporated areas derive, because for regulatory purposes.

National Flood Hazard Layer FIRMette



Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANELAYOUT

SPECIAL FLOOD HAZARD AREAS	White with Black Flood Elevation (BFE) 2006-07-2007
	White with Black Flood Elevation (BFE) 2006-07-2007
OTHER AREAS OF FLOOD HAZARD	0.2% Annual Chance Flood Hazard, Areas of 1% Annual Chance Flood with average depth less than one foot or with average areas of less than one square mile. 2006-07-2007
	Future Conditions 1% Annual Chance Flood Hazard 2006-07-2007
	Area with Reduced Flood Risk due to Levee, See Maps. 2006-07-2007
	Area with Flood Risk due to Levee. 2006-07-2007
OTHER AREAS	Area of Minimal Flood Hazard 2006-07-2007
	Effective 10 MFRs
	Area of Unincorporated Flood Hazard 2006-07-2007
GENERAL STRUCTURES	Channel, Outfall, or Storm Sewer Levee, Dike, or Restwell
	Channel, Outfall, or Storm Sewer Levee, Dike, or Restwell
OTHER FEATURES	Cross Sections with 1% Annual Chance
	Water Surface Elevation
	Channel Transverse
	Base Flood Elevation (BFE)
	Limit of Study
	Jurisdiction Boundary
MAP PANELS	Digital Data Available
	No Digital Data Available
	Unmapped

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not as described below. The basemap shown complies with FEMA's basemap accuracy standards.

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was updated on 03/02/2025 on 03/25/2025 and therefore reflects changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is valid if the date or time of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identification, FIRM panel number, and FIRM effective date. Map images for unincorporated and unincorporated areas derive, because for regulatory purposes.

National Flood Hazard Layer FIRMette



Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANELAYOUT

SPECIAL FLOOD HAZARD AREAS	White	Without Base Flood Elevation (BFE)
	Light Blue	With BFE Depth
OTHER AREAS OF FLOOD HAZARD	Orange	0.2% Annual Chance Flood Hazard Areas of 1% annual chance flood with average depth less than one foot or with average areas of less than one square mile
	Dark Orange	Future Conditions 1% Annual Chance Flood Hazard
	Light Orange	Area with Reduced Flood Risk due to levee, Sec. 108
	Dark Orange	Area with Flood Risk due to levee
OTHER AREAS	Blue	Area of Minimal Flood Hazard
	Light Blue	Effective 10 MFRs
	Dark Blue	Area of Unincorporated Flood Hazard
GENERAL STRUCTURES	Red	Channel, Outfall, or Storm Sewer
	Blue	Levee, Dam, or Reservoir
OTHER FEATURES	Blue	Cross Sections with 1% Annual Chance
	Blue	Water Surface Elevation
	Blue	Channel Transect
	Blue	Base Flood Elevation (BFE)
	Blue	Line of Survey
	Blue	Jurisdiction Boundary
MAP PANELS	Green	Digital Data Available
	Yellow	No Digital Data Available
	Red	Unmapped

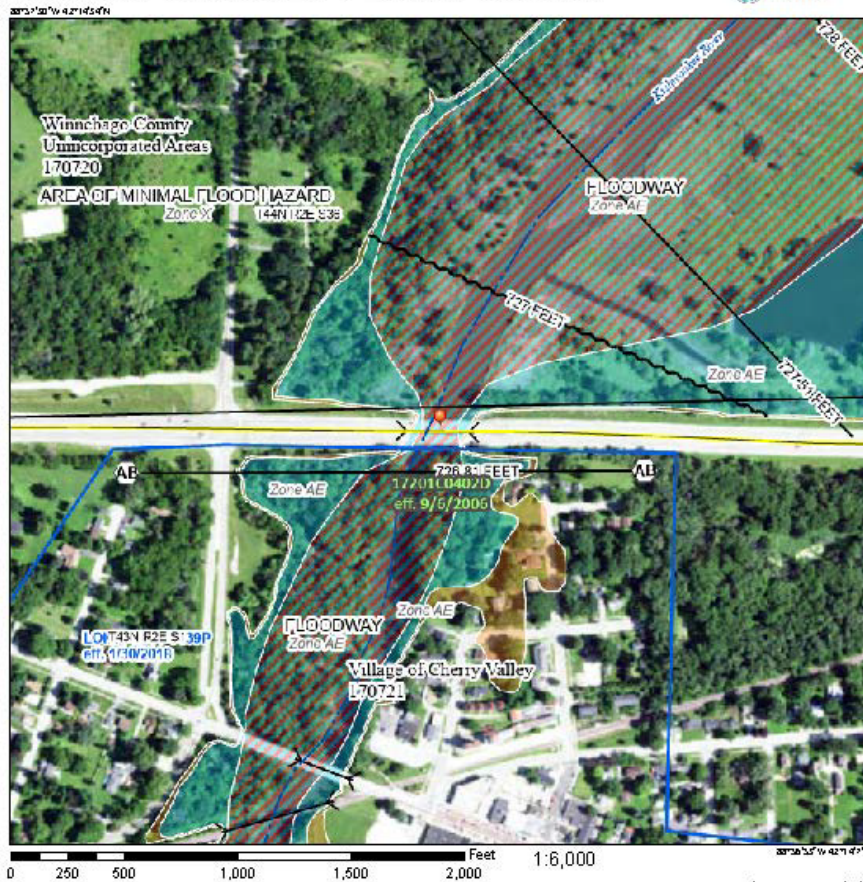
The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not used as described below. The base map shown complies with FEMA's base map accuracy standards.

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was updated on 10/27/2020 at 10:58 AM and therefore reflects changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: base map imagery, flood zone labels, legend, scale bar, map creation date, community identifier, FIRM panel number, and FIRM effective date. Map images for unincorporated and unincorporated areas derive, because for regulatory purposes.

National Flood Hazard Layer FIRMette



Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANELAYOUT

SPECIAL FLOOD HAZARD AREAS	<ul style="list-style-type: none"> White: Base Flood Elevation (BFE) 2004 or 2006 Light Blue: Min. BF Elev Depth 2004 or 2006, 0.5m, 1.0m Dark Blue: Regulatory Floodway
OTHER AREAS OF FLOOD HAZARD	<ul style="list-style-type: none"> Orange: 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with average areas of less than one square mile 2004 Dark Grey: Future Conditions 1% Annual Chance Flood Hazard 2004 Light Orange: Area with Reduced Flood Risk due to levee, Sec. 1004 2004 Yellow: Area with Flood Risk due to levee 2004
OTHER AREAS	<ul style="list-style-type: none"> Light Green: Area of Minimal Flood Hazard 2004 Blue: Effective 10 MFRs Dark Green: Area of Unincorporated Flood Hazard 2004
GENERAL STRUCTURES	<ul style="list-style-type: none"> Black Dashed: Channel, Outfall, or Storm Sewer Black Dotted: Levee, Dam, or Reservoir
OTHER FEATURES	<ul style="list-style-type: none"> Circle with '2004': Cross Sections with 1% Annual Chance Circle with '1704': Water Surface Elevation Red Dashed: Coastal Transect Red Dotted: Base Flood Elevation (BFE) Red Solid: Limit of Study Red Dashed: Jurisdiction Boundary Blue Dashed: Coastal Transect, Baseline Blue Solid: Profile Baseline Blue Dotted: Hydrographic Feature
MAP PANELS	<ul style="list-style-type: none"> Green: Digital Data Available Yellow: No Digital Data Available White: Unmapped

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not used as described below. The basemap shown complies with FEMA's basemap accuracy standards.

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was updated on 03/20/2025 at 2:00 PM and therefore reflects changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is valid if the date or time of the following map elements do not appear: basemap imagery, flood area labels, legend, scale bar, map creation date, community identification, FIRM panel number, and FIRM effective date. Map images for unincorporated and unincorporated areas derive, because for regulatory purposes.

National Flood Hazard Layer FIRMette



Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANELAYOUT

SPECIAL FLOOD HAZARD AREAS	OTHER AREAS OF FLOOD HAZARD	OTHER AREAS	GENERAL STRUCTURES	OTHER FEATURES	MAP PANELS
<ul style="list-style-type: none"> Without Base Flood Elevation (BFE) 2004-01-01-2005-01-01 With BFE or Depth 2004-01-01-2005-01-01 Regulatory Floodway 	<ul style="list-style-type: none"> 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with average areas of less than one square mile 2004-01-01-2005-01-01 Future Conditions 1% Annual Chance Flood Hazard 2004-01-01-2005-01-01 Area with Reduced Flood Risk due to Levee, Sec. 1082 2004-01-01-2005-01-01 Area with Flood Risk due to Levee 2004-01-01-2005-01-01 	<ul style="list-style-type: none"> Area of Minimal Road Hazard 2004-01-01-2005-01-01 Effective 10 MRA Area of Unincorporated Road Hazard 2004-01-01-2005-01-01 	<ul style="list-style-type: none"> Channel, Outfall, or Storm Sewer Levee, Dam, or Retention 	<ul style="list-style-type: none"> Cross Sections with 1% Annual Chance Water Surface Elevation Channel Transverse Base Flood Elevation (BFE) Line of Sight Jurisdiction Boundary Channel Transverse, Baseline Profile Baseline Hydrographic Feature 	<ul style="list-style-type: none"> Digital Data Available No Digital Data Available Unmapped

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not as described below. The basemap shown conforms with FEMA's basemap accuracy standards.

The flood hazard information is derived directly from the authoritative FIRM web services provided by FEMA. This map was updated on 03/10/2025 on data FIRM and therefore reflects changes or amendments subsequent to this date and time. The FIRM and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements does not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unincorporated and unincorporated areas derive, because for regulatory purposes.

National Flood Hazard Layer FIRMette



Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS

- Without Base Flood Elevation (BFE) 2004 or 2006
- With BFE or Depth 2004 or 2006
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD

- 0.2% Annual Chance Flood Hazard Areas of 1% Annual Chance Flood with average depth less than one foot or with average areas of less than one square mile 2004 & 2006
- Future Conditions 1% Annual Chance Flood Hazard 2004 & 2006
- Area with Reduced Flood Risk due to Levee, See Maps 2004 & 2006
- Area with Flood Risk due to Levee 2004 & 2006

OTHER AREAS

- Area of Minimal Road Hazard 2004 & 2006
- Effective 10 MRS
- Area of Unimproved Road Hazard 2004 & 2006

GENERAL STRUCTURES

- Channel, Outfall, or Storm Sewer Levee, Dike, or Retention Wall

OTHER FEATURES

- Cross Sections with 1% Annual Chance
- Water Surface Elevation
- Casual Tracks
- Base Flood Elevation (BFE)
- Line of Sight
- Jurisdiction Boundary
- Casual Tracks, Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS

- Digital Data Available
- No Digital Data Available
- Unmapped

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not as described below. The basemap shown complies with FEMA's basemap accuracy standards.

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was updated on 03/02/2025 on 04/02/2025 and therefore reflects changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is valid if the user or viewer of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map control icons, community identifiers, FIRM panel numbers, and FIRM effective date. Map images for unimproved and unimproved areas derive because for regulatory purposes.

National Flood Hazard Layer FIRMette



Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS	White	Without Base Flood Elevation (BFE)
	Light Blue	With BFE and Depth
OTHER AREAS OF FLOOD HAZARD	Orange	0.2% Annual Chance Flood Hazard, Areas of 1% Annual Chance Flood with average depth less than one foot or with average areas of less than one square mile
	Dark Orange	Future Conditions 1% Annual Chance Flood Hazard
	Light Orange	Area with Reduced Flood Risk due to Levee, See Note
	Yellow	Area with Flood Risk due to Levee
OTHER AREAS	Light Green	Area of Minimal Road Hazard
	Blue	Effective 10 MRA
	Dark Green	Area of Unincorporated Road Hazard
GENERAL STRUCTURES	Black	Channel, Outfall, or Storm Sewer Levee, Dike, or Retention
	Red	Channel Section with 1% Annual Chance Water Surface Elevation
OTHER FEATURES	Blue	Channel Transverse
	Black	Base Flood Elevation Line (BFE)
	Red	Line of Survey
	Green	Jurisdiction Boundary
	Blue	Channel Transverse, Baseline Profile Baseline, Hydrographic Feature
MAP PANELS	Green	Digital Data Available
	Yellow	No Digital Data Available
	Red	Unmapped

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not used as described below. The base map shown complies with FEMA's base map accuracy standards.

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was updated on 03/02/2025 at 09:49 PM and therefore reflects changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the user or viewer of the following map elements do not appear: base map imagery, flood area labels, legend, scale bar, map creation date, community identification, FIRM panel number, and FIRM effective date. Map images for unincorporated and unincorporated areas derive, because for regulatory purposes.

National Flood Hazard Layer FIRMette



Scale: 1:6,000
 Feet 0 250 500 1,000 1,500 2,000
 Screenshot: USGS National Map; Orthoimagery; Data refreshed October, 2020

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANELAYOUT

SPECIAL FLOOD HAZARD AREAS	White: Base Flood Elevation (BFE) 2004-01-01 ADP
	White: BFE with Depth 2004-01-01 ADP, on Regulatory Floodway
OTHER AREAS OF FLOOD HAZARD	0.2% Annual Chance Flood Hazard, Areas of 1% Annual Chance Flood with average depth less than one foot or with average areas of less than one square mile 2004-01-01
	Future Conditions 1% Annual Chance Flood Hazard 2004-01-01
	Area with Reduced Flood Risk due to Levee, Sec. 10824 2004-01-01
	Area with Flood Risk due to Levee 2004-01-01
OTHER AREAS	Area of Minimal Flood Hazard 2004-01-01
	Effective 10 MRA
	Area of Unincorporated Road Hazard 2004-01-01
GENERAL STRUCTURES	Channel, Outfall, or Storm Sewer Levee, Dam, or Retention Wall
	Channel Section with 1% Annual Chance Water Surface Elevation
OTHER FEATURES	Channel Transverse
	Base Flood Elevation (BFE)
	Line of Survey
	Jurisdiction Boundary
	Channel Transverse, Baseline Profile Baseline Hydrographic Feature
MAP PANELS	Digital Data Available
	No Digital Data Available
	Unmapped

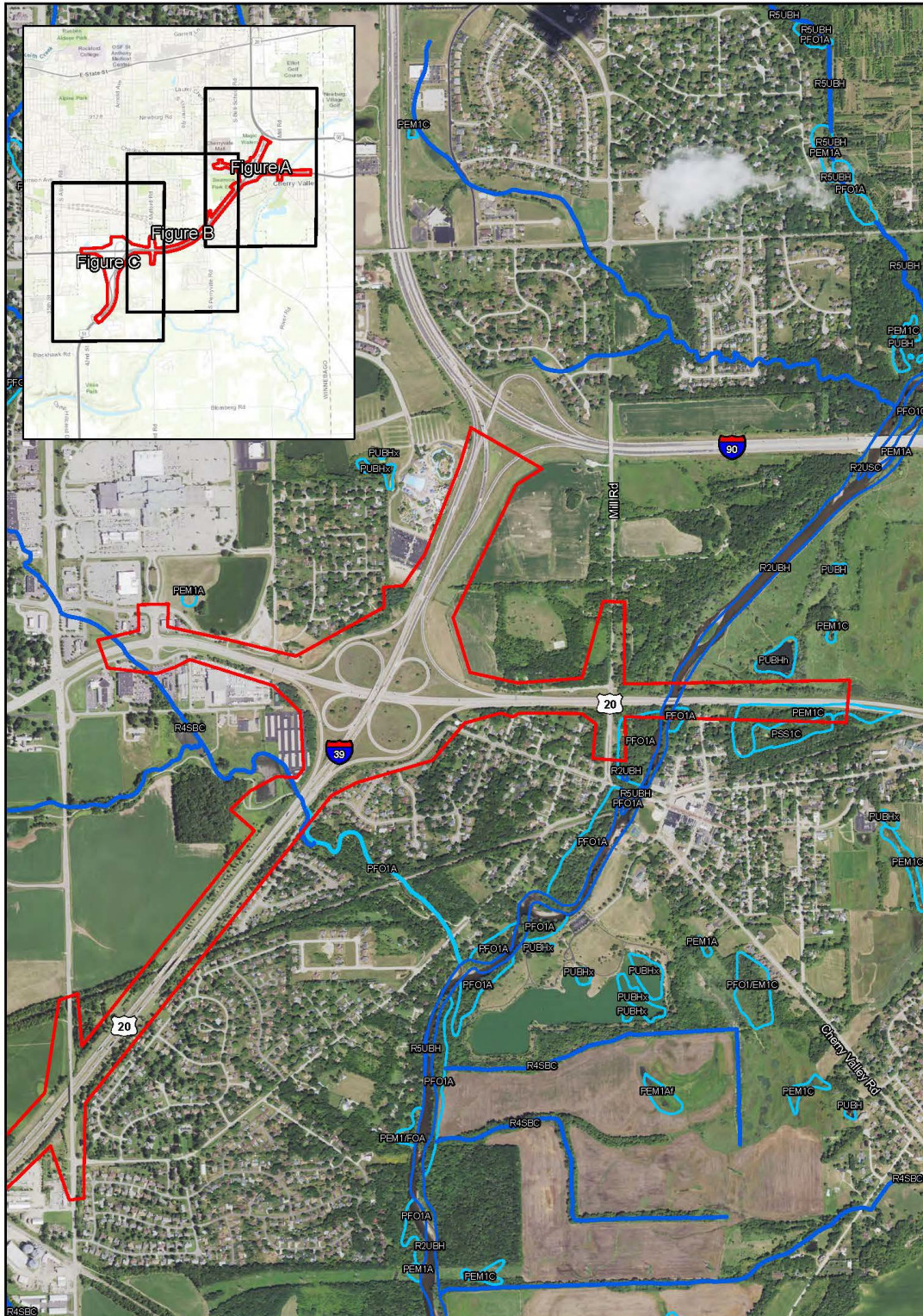
The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.


This map complies with FEMA's standards for the use of digital flood maps if it is not so described below. The baseline shown complies with FEMA's baseline accuracy standards.

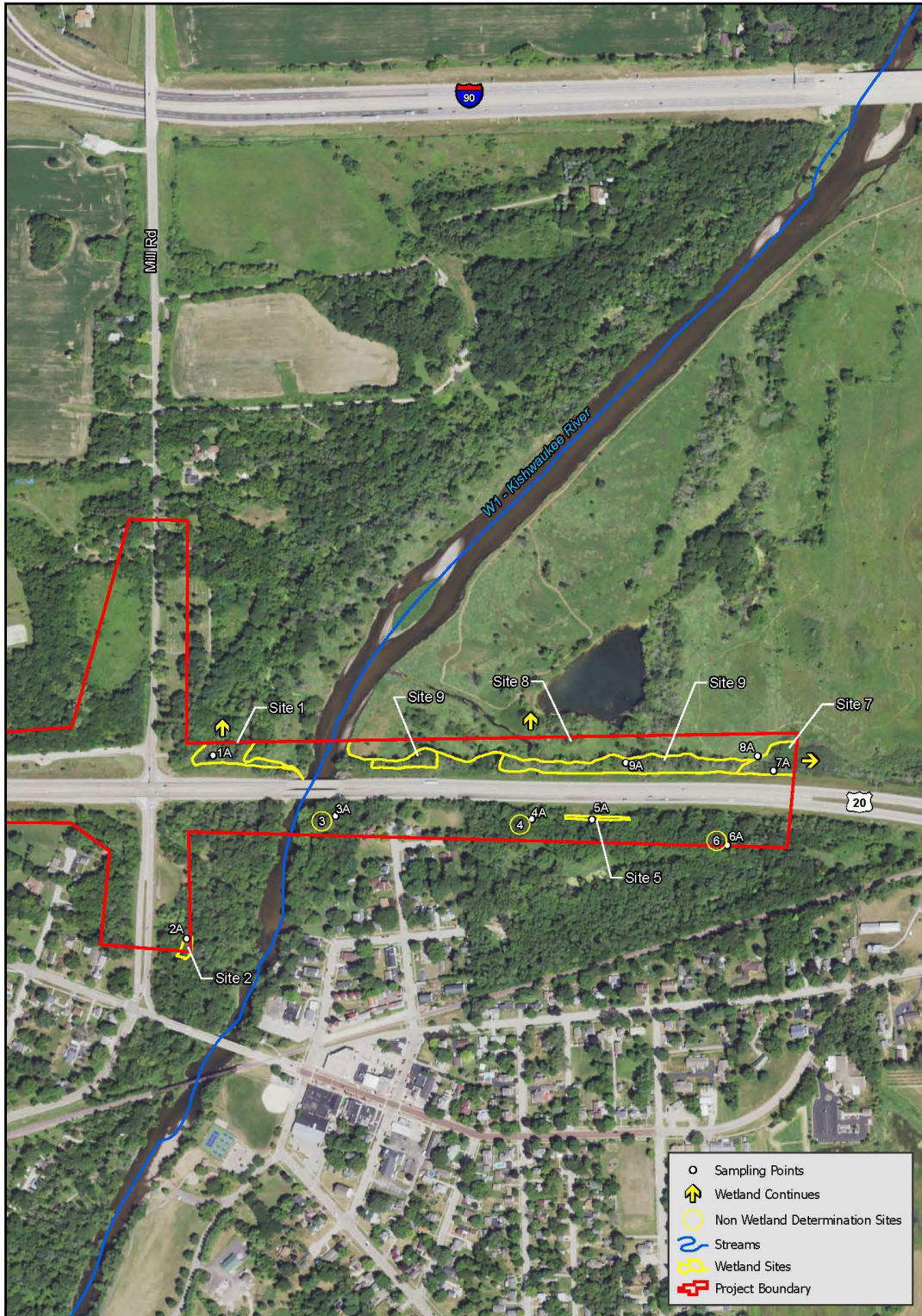
The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was updated on 03/02/2025 on 01:53 PM and therefore reflects changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is valid if the user or viewer of the following map elements do not appear: baseline imagery, flood zone labels, legend, scale bar, map creation date, community identification, FIRM panel numbers, and FIRM effective date. Map images for unincorporated and unincorporated areas derive because for regulatory purposes.

WETLAND MAPS

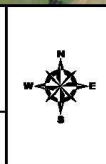


<p>I ILLINOIS Illinois Natural History Survey PRAIRIE RESEARCH INSTITUTE INHS/IDOT Wetland Science Program 1816 South Oak Street Champaign, Illinois 61820</p>	<p align="center">Figure 2A National Wetlands Inventory Map Interstate 39 and US 20 (FAI 39 and FAP 301) Winnebago County</p> <p align="right">Seq. No: 13316&A&B</p>	
<p>0 Meters 300</p>	<p>0 Feet 1,000</p>	<p>November 2021</p>



ILLINOIS
 Illinois Natural History Survey
 PRAIRIE RESEARCH INSTITUTE
 INHS/IDOT Wetland Science Program
 1816 South Oak Street
 Champaign, Illinois 61820

Figure 4A
Wetland Determination Overview Map
Interstate 39 and US 20 (FAI 39 and FAP 301)
Winnebago County
 Seq. No: 13316&A&B
 November 2021



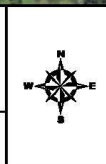


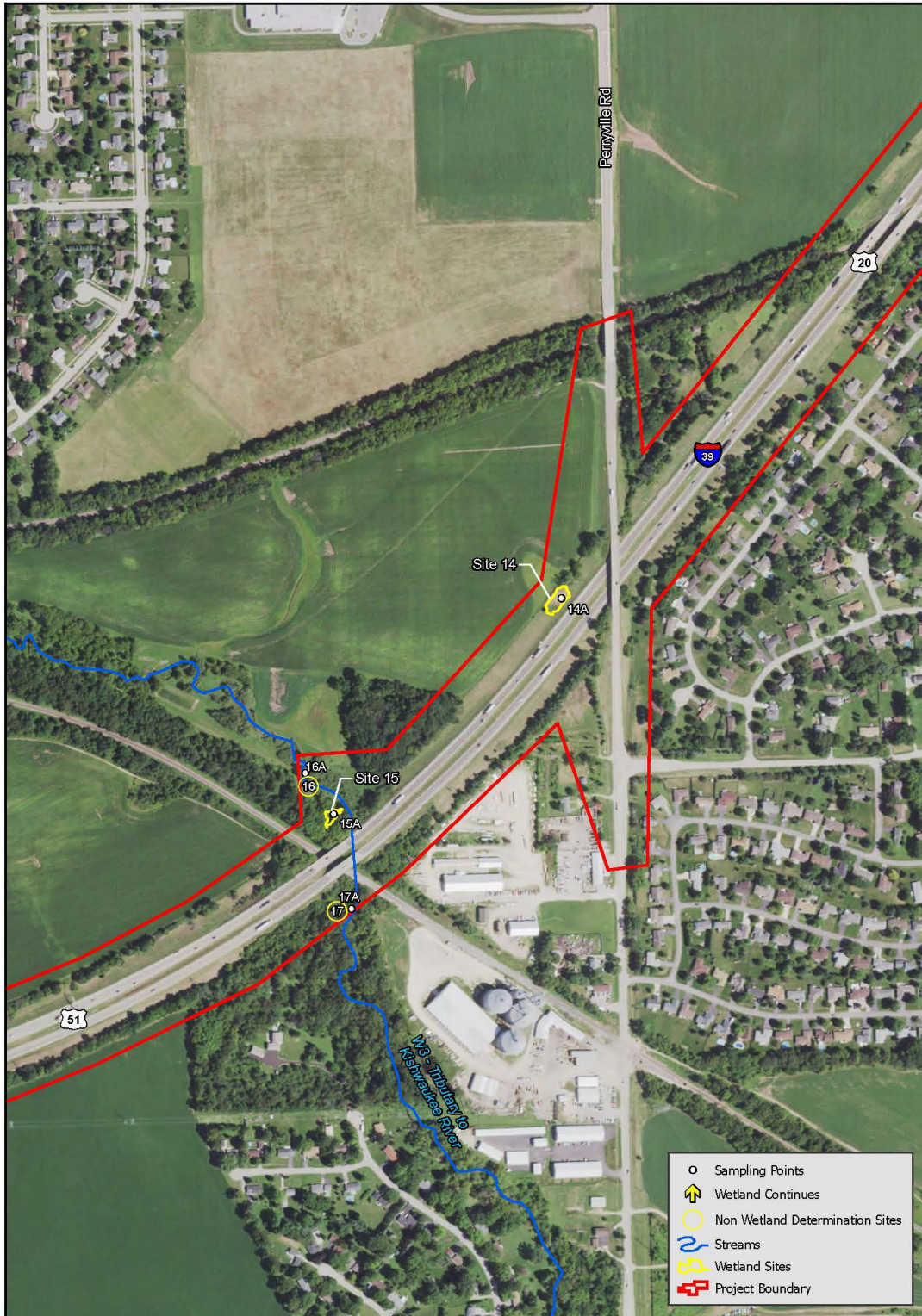
<p>I ILLINOIS Illinois Natural History Survey PRAIRIE RESEARCH INSTITUTE INHS/IDOT Wetland Science Program 1816 South Oak Street Champaign, Illinois 61820</p>	<p align="center">Figure 4B Wetland Determination Overview Map Interstate 39 and US 20 (FAI 39 and FAP 301) Winnebago County</p> <p align="right">Seq. No: 13316&A&B</p> <p align="center">0 Meters 120 0 Feet 400</p> <p align="right">November 2021</p>	
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 Illinois Natural History Survey
 PRAIRIE RESEARCH INSTITUTE
 INHS/IDOT Wetland Science Program
 1816 South Oak Street
 Champaign, Illinois 61820

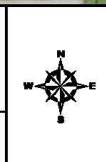
Figure 4C
Wetland Determination Overview Map
Interstate 39 and US 20 (FAI 39 and FAP 301)
Winnebago County
 Seq. No: 13316&A&B
 November 2021





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 Illinois Natural History Survey
 PRAIRIE RESEARCH INSTITUTE
 INHS/IDOT Wetland Science Program
 1816 South Oak Street
 Champaign, Illinois 61820

Figure 4D
Wetland Determination Overview Map
Interstate 39 and US 20 (FAI 39 and FAP 301)
Winnebago County
 Seq. No: 13316&A&B
 November 2021



ENDANGERED SPECIES



Applicant: Hanson Professional Services Inc.
Contact: Julianne Epplin
Address: 13801 Riverport Drive, Suite 300
Maryland Heights, MO 63043

IDNR Project Number: 1704360
Date: 11/10/2016
Alternate Number: 06S2055

Project: FAI Route 39 (I-39) & FAP Route 301 (US 20)
Address: 7820 Cherryvale N Blvd, Cherry Valley

Description: project planning

Natural Resource Review Results

This project was submitted for information only. It is not a consultation under Part 1075.

The Illinois Natural Heritage Database shows the following protected resources may be in the vicinity of the project location:

Kishwaukee River INAI Site
American Brook Lamprey (*Lethenteron appendix*)
Black Sandshell (*Ligumia recta*)
Black Sandshell (*Ligumia recta*)
Gravel Chub (*Erimystax x-punctatus*)
Gravel Chub (*Erimystax x-punctatus*)

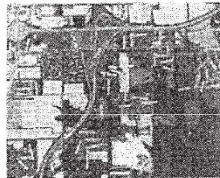
Location

The applicant is responsible for the accuracy of the location submitted for the project.

County: Winnebago

Township, Range, Section:

43N, 2E, 1
43N, 2E, 2
43N, 2E, 3
43N, 2E, 4
43N, 2E, 8
43N, 2E, 9
43N, 2E, 10
43N, 2E, 11
43N, 2E, 16
43N, 2E, 17
44N, 2E, 34
44N, 2E, 35
44N, 2E, 36



IDNR Project Number: 1704360

IL Department of Natural Resources

Contact

Impact Assessment Section

217-785-5500

Division of Ecosystems & Environment

Disclaimer

The Illinois Natural Heritage Database cannot provide a conclusive statement on the presence, absence, or condition of natural resources in Illinois. This review reflects the information existing in the Database at the time of this inquiry, and should not be regarded as a final statement on the site being considered, nor should it be a substitute for detailed site surveys or field surveys required for environmental assessments. If additional protected resources are encountered during the project's implementation, compliance with applicable statutes and regulations is required.

Terms of Use

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1. The IDNR EcoCAT website was developed so that units of local government, state agencies and the public could request information or begin natural resource consultations on-line for the Illinois Endangered Species Protection Act, Illinois Natural Areas Preservation Act, and Illinois Interagency Wetland Policy Act. EcoCAT uses databases, Geographic Information System mapping, and a set of programmed decision rules to determine if proposed actions are in the vicinity of protected natural resources. By indicating your agreement to the Terms of Use for this application, you warrant that you will not use this web site for any other purpose.
2. Unauthorized attempts to upload, download, or change information on this website are strictly prohibited and may be punishable under the Computer Fraud and Abuse Act of 1986 and/or the National Information Infrastructure Protection Act.
3. IDNR reserves the right to enhance, modify, alter, or suspend the website at any time without notice, or to terminate or restrict access.

Security

EcoCAT operates on a state of Illinois computer system. We may use software to monitor traffic and to identify unauthorized attempts to upload, download, or change information, to cause harm or otherwise to damage this site. Unauthorized attempts to upload, download, or change information on this server is strictly prohibited by law.

Unauthorized use, tampering with or modification of this system, including supporting hardware or software, may subject the violator to criminal and civil penalties. In the event of unauthorized intrusion, all relevant information regarding possible violation of law may be provided to law enforcement officials.

Privacy

EcoCAT generates a public record subject to disclosure under the Freedom of Information Act. Otherwise, IDNR uses the information submitted to EcoCAT solely for internal tracking purposes.

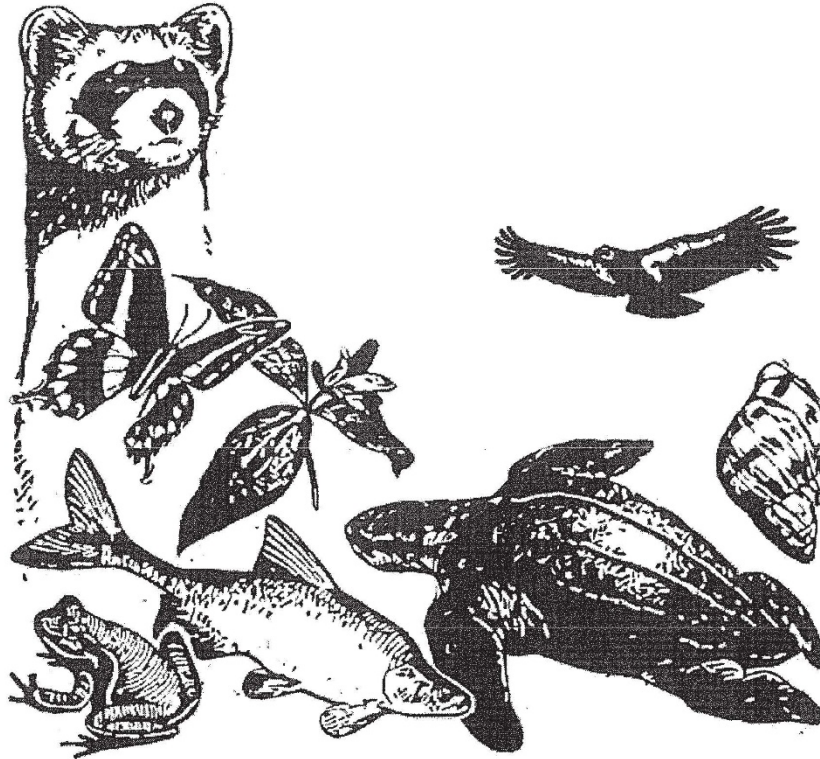
U.S. Fish & Wildlife Service

FAI Route 39 (I-39) & FAP Route 301 (US 20)

IPaC Trust Resources Report

Generated November 07, 2016 09:16 AM MST, IPaC v3.0.9

This report is for informational purposes only and should not be used for planning or analyzing project level impacts. For project reviews that require U.S. Fish & Wildlife Service review or concurrence, please return to the IPaC website and request an official species list from the Regulatory Documents page.



IPaC - Information for Planning and Conservation (<https://ecos.fws.gov/ipac/>): A project planning tool to help streamline the U.S. Fish & Wildlife Service environmental review process.

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U.S. Fish & Wildlife Service
IPaC Trust Resources Report

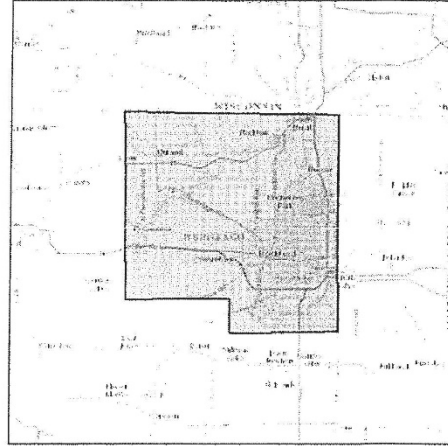


NAME
FAI Route 39 (I-39) & FAP Route 301
(US 20)

LOCATION
Winnebago County, Illinois

DESCRIPTION
project planning

IPAC LINK
[https://ecos.fws.gov/ipac/project/
KMWQK-YKEY,J-HHJPC-I3BJS-BQESOM](https://ecos.fws.gov/ipac/project/KMWQK-YKEY,J-HHJPC-I3BJS-BQESOM)



U.S. Fish & Wildlife Service Contact Information

Trust resources in this location are managed by:

Rock Island Ecological Services Field Office
Rock Island Ecological Services Field Office
1511 47th Ave
Moline, IL 61265-7022
(309) 757-5800

IPaC Trust Resources Report
Endangered Species

Endangered Species

Proposed, candidate, threatened, and endangered species are managed by the Endangered Species Program of the U.S. Fish & Wildlife Service.

This USFWS trust resource report is for informational purposes only and should not be used for planning or analyzing project level impacts.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list from the Regulatory Documents section.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency.

A letter from the local office and a species list which fulfills this requirement can only be obtained by requesting an official species list either from the Regulatory Documents section in IPaC or from the local field office directly.

The list of species below are those that may occur or could potentially be affected by activities in this location:

Flowering Plants

Eastern Prairie Fringed Orchid *Platanthera leucophaea* Threatened

CRITICAL HABITAT

No critical habitat has been designated for this species.

http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=Q2GG

Prairie Bush-clover *Lespedeza leptostachya* Threatened

CRITICAL HABITAT

No critical habitat has been designated for this species.

http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=Q2CB

IPaC Trust Resources Report
Endangered Species

Mammals

Indiana Bat *Myotis sodalis*

Endangered

CRITICAL HABITAT

No critical habitat has been designated for this species.

http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=A000

Northern Long-eared Bat *Myotis septentrionalis*

Threatened

CRITICAL HABITAT

No critical habitat has been designated for this species.

http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=A0JE

Critical Habitats

There are no critical habitats in this location

IPaC Trust Resources Report
Migratory Birds

Migratory Birds

Birds are protected by the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act.

Any activity that results in the take of migratory birds or eagles is prohibited unless authorized by the U.S. Fish & Wildlife Service.^[1] There are no provisions for allowing the take of migratory birds that are unintentionally killed or injured.

Any person or organization who plans or conducts activities that may result in the take of migratory birds is responsible for complying with the appropriate regulations and implementing appropriate conservation measures.

1. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

Additional information can be found using the following links:

- Birds of Conservation Concern
<http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php>
- Conservation measures for birds
<http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php>
- Year-round bird occurrence data
<http://www.birdscanada.org/birdmon/default/datasummaries.jsp>

The following species of migratory birds could potentially be affected by activities in this location:

Acadian Flycatcher <i>Empidonax vireescens</i>	Bird of conservation concern
Season: Breeding	
Bald Eagle <i>Haliaeetus leucocephalus</i>	Bird of conservation concern
Season: Year-round	
http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B008	
Bell's Vireo <i>Vireo bellii</i>	Bird of conservation concern
Season: Breeding	
http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0JX	
Black Tern <i>Chlidonias niger</i>	Bird of conservation concern
Season: Breeding	
http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B09E	

IPaC Trust Resources Report
 Migratory Birds

Black-billed Cuckoo <i>Coccyzus erythrophthalmus</i>	Bird of conservation concern
Season: Breeding http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0HI	
Black-crowned Night-heron <i>Nycticorax nycticorax</i>	Bird of conservation concern
Season: Breeding http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0EU	
Blue-winged Warbler <i>Vermivora pinus</i>	Bird of conservation concern
Season: Breeding	
Bobolink <i>Dolichonyx oryzivorus</i>	Bird of conservation concern
Season: Breeding	
Brown Thrasher <i>Toxostoma rufum</i>	Bird of conservation concern
Season: Breeding	
Cerulean Warbler <i>Dendroica cerulea</i>	Bird of conservation concern
Season: Breeding http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B09I	
Common Tern <i>Sterna hirundo</i>	Bird of conservation concern
Season: Breeding http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B09G	
Dickcissel <i>Spiza americana</i>	Bird of conservation concern
Season: Breeding	
Field Sparrow <i>Spizella pusilla</i>	Bird of conservation concern
Season: Breeding	
Henslow's Sparrow <i>Ammodramus henslowii</i>	Bird of conservation concern
Season: Breeding http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B09D	
Kentucky Warbler <i>Oporornis formosus</i>	Bird of conservation concern
Season: Breeding	
Least Bittern <i>Ixobrychus exilis</i>	
Season: Breeding http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B092	
Loggerhead Shrike <i>Lanius ludovicianus</i>	Bird of conservation concern
Season: Breeding http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0FY	
Marsh Wren <i>Cistothorus palustris</i>	Bird of conservation concern
Season: Breeding	
Northern Flicker <i>Colaptes auratus</i>	Bird of conservation concern
Season: Year-round	
Peregrine Falcon <i>Falco peregrinus</i>	Bird of conservation concern
Season: Breeding http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0FU	

IPaC Trust Resources Report
Migratory Birds

Pied-billed Grebe <i>Podilymbus podiceps</i> Season: Breeding	Bird of conservation concern
Prothonotary Warbler <i>Protonotaria citrea</i> Season: Breeding	Bird of conservation concern
Red-headed Woodpecker <i>Melanerpes erythrocephalus</i> Season: Year-round	Bird of conservation concern
Rusty Blackbird <i>Euphagus carolinus</i> Season: Wintering	Bird of conservation concern
Short-eared Owl <i>Asio flammeus</i> Season: Wintering http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0HD	Bird of conservation concern
Swainson's Hawk <i>Buteo swainsoni</i> Season: Breeding http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B070	Bird of conservation concern
Upland Sandpiper <i>Bartramia longicauda</i> Season: Breeding http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0HC	Bird of conservation concern
Willow Flycatcher <i>Empidonax traillii</i> Season: Breeding http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0F6	Bird of conservation concern
Wood Thrush <i>Hylocichla ustulata</i> Season: Breeding	Bird of conservation concern

IPaC Trust Resources Report
Refuges & Hatcheries

Wildlife refuges and fish hatcheries

There are no refuges or fish hatcheries in this location

REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS

- I. General
- II. Nondiscrimination
- III. Non-segregated Facilities
- IV. Davis-Bacon and Related Act Provisions
- V. Contract Work Hours and Safety Standards Act Provisions
- VI. Subletting or Assigning the Contract
- VII. Safety: Accident Prevention
- VIII. False Statements Concerning Highway Projects
- IX. Implementation of Clean Air Act and Federal Water Pollution Control Act
- X. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion
- XI. Certification Regarding Use of Contract Funds for Lobbying
- XII. Use of United States-Flag Vessels:

ATTACHMENTS

A. Employment and Materials Preference for Appalachian Development Highway System or Appalachian Local Access Road Contracts (included in Appalachian contracts only)

I. GENERAL

1. Form FHWA-1273 must be physically incorporated in each construction contract funded under title 23, United States Code, as required in 23 CFR 633.102(b) (excluding emergency contracts solely intended for debris removal). The contractor (or subcontractor) must insert this form in each subcontract and further require its inclusion in all lower tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services). 23 CFR 633.102(e).

The applicable requirements of Form FHWA-1273 are incorporated by reference for work done under any purchase order, rental agreement or agreement for other services. The prime contractor shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider. 23 CFR 633.102(e).

Form FHWA-1273 must be included in all Federal-aid design-build contracts, in all subcontracts and in lower tier subcontracts (excluding subcontracts for design services, purchase orders, rental agreements and other agreements for supplies or services) in accordance with 23 CFR 633.102. The design-builder shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Contracting agencies may reference Form FHWA-1273 in solicitation-for-bids or request-for-proposals documents, however, the Form FHWA-1273 must be physically incorporated (not referenced) in all contracts, subcontracts and lower-tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services related to a construction contract). 23 CFR 633.102(b).

2. Subject to the applicability criteria noted in the following sections, these contract provisions shall apply to all work

performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract. 23 CFR 633.102(d).

3. A breach of any of the stipulations contained in these Required Contract Provisions may be sufficient grounds for withholding of progress payments, withholding of final payment, termination of the contract, suspension / debarment or any other action determined to be appropriate by the contracting agency and FHWA.

4. Selection of Labor: During the performance of this contract, the contractor shall not use convict labor for any purpose within the limits of a construction project on a Federal-aid highway unless it is labor performed by convicts who are on parole, supervised release, or probation. 23 U.S.C. 114(b). The term Federal-aid highway does not include roadways functionally classified as local roads or rural minor collectors. 23 U.S.C. 101(a).

II. NONDISCRIMINATION (23 CFR 230.107(a); 23 CFR Part 230, Subpart A, Appendix A; EO 11246)

The provisions of this section related to 23 CFR Part 230, Subpart A, Appendix A are applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more. The provisions of 23 CFR Part 230 are not applicable to material supply, engineering, or architectural service contracts.

In addition, the contractor and all subcontractors must comply with the following policies: Executive Order 11246, 41 CFR Part 60, 29 CFR Parts 1625-1627, 23 U.S.C. 140, Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. 794), Title VI of the Civil Rights Act of 1964, as amended (42 U.S.C. 2000d et seq.), and related regulations including 49 CFR Parts 21, 26, and 27; and 23 CFR Parts 200, 230, and 633.

The contractor and all subcontractors must comply with: the requirements of the Equal Opportunity Clause in 41 CFR 60-1.4(b) and, for all construction contracts exceeding \$10,000, the Standard Federal Equal Employment Opportunity Construction Contract Specifications in 41 CFR 60-4.3.

Note: The U.S. Department of Labor has exclusive authority to determine compliance with Executive Order 11246 and the policies of the Secretary of Labor including 41 CFR Part 60, and 29 CFR Parts 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with 23 U.S.C. 140, Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. 794), and Title VI of the Civil Rights Act of 1964, as amended (42 U.S.C. 2000d et seq.), and related regulations including 49 CFR Parts 21, 26, and 27; and 23 CFR Parts 200, 230, and 633.

The following provision is adopted from 23 CFR Part 230, Subpart A, Appendix A, with appropriate revisions to conform to the U.S. Department of Labor (US DOL) and FHWA requirements.

1. Equal Employment Opportunity: Equal Employment Opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (see 28 CFR Part 35, 29 CFR Part 1630, 29 CFR Parts 1625-1627, 41 CFR Part 60 and 49 CFR Part 27) and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140, shall constitute the EEO and specific affirmative action standards for the contractor's project activities under this contract. The provisions of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR Part 35 and 29 CFR Part 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:

a. The contractor will work with the contracting agency and the Federal Government to ensure that it has made every good faith effort to provide equal opportunity with respect to all of its terms and conditions of employment and in their review of activities under the contract. 23 CFR 230.409 (g)(4) & (5).

b. The contractor will accept as its operating policy the following statement:

"It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, sexual orientation, gender identity, color, national origin, age or disability. Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, pre-apprenticeship, and/or on-the-job training."

2. EEO Officer: The contractor will designate and make known to the contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active EEO program and who must be assigned adequate authority and responsibility to do so.

3. Dissemination of Policy: All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action or are substantially involved in such action, will be made fully cognizant of and will implement the contractor's EEO policy and contractual responsibilities to provide EEO in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:

a. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer or other knowledgeable company official.

b. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty with the contractor.

c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minorities and women.

d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.

e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

4. Recruitment: When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minorities and women in the area from which the project work force would normally be derived.

a. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minorities and women. To meet this requirement, the contractor will identify sources of potential minority group employees and establish with such identified sources procedures whereby minority and women applicants may be referred to the contractor for employment consideration.

b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, the contractor is expected to observe the provisions of that agreement to the extent that the system meets the contractor's compliance with EEO contract provisions. Where implementation of such an agreement has the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Federal nondiscrimination provisions.

c. The contractor will encourage its present employees to refer minorities and women as applicants for employment. Information and procedures with regard to referring such applicants will be discussed with employees.

5. Personnel Actions: Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, age or disability. The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to ensure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.

b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.

c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.

d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with its obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action

within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of their avenues of appeal.

6. Training and Promotion:

a. The contractor will assist in locating, qualifying, and increasing the skills of minorities and women who are applicants for employment or current employees. Such efforts should be aimed at developing full journey level status employees in the type of trade or job classification involved.

b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs (i.e., apprenticeship and on-the-job training programs for the geographical area of contract performance). In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision. The contracting agency may reserve training positions for persons who receive welfare assistance in accordance with 23 U.S.C. 140(a).

c. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.

d. The contractor will periodically review the training and promotion potential of employees who are minorities and women and will encourage eligible employees to apply for such training and promotion.

7. Unions: If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use good faith efforts to obtain the cooperation of such unions to increase opportunities for minorities and women. 23 CFR 230.409. Actions by the contractor, either directly or through a contractor's association acting as agent, will include the procedures set forth below:

a. The contractor will use good faith efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minorities and women for membership in the unions and increasing the skills of minorities and women so that they may qualify for higher paying employment.

b. The contractor will use good faith efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, sexual orientation, gender identity, national origin, age, or disability.

c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the contracting agency and shall set forth what efforts have been made to obtain such information.

d. In the event the union is unable to provide the contractor with a reasonable flow of referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, age, or disability; making full efforts to obtain qualified and/or qualifiable minorities and women. The failure of a union to provide

sufficient referrals (even though it is obligated to provide exclusive referrals under the terms of a collective bargaining agreement) does not relieve the contractor from the requirements of this paragraph. In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the contracting agency.

8. Reasonable Accommodation for Applicants /

Employees with Disabilities: The contractor must be familiar with the requirements for and comply with the Americans with Disabilities Act and all rules and regulations established thereunder. Employers must provide reasonable accommodation in all employment activities unless to do so would cause an undue hardship.

9. Selection of Subcontractors, Procurement of Materials and Leasing of Equipment: The contractor shall not discriminate on the grounds of race, color, religion, sex, sexual orientation, gender identity, national origin, age, or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The contractor shall take all necessary and reasonable steps to ensure nondiscrimination in the administration of this contract.

a. The contractor shall notify all potential subcontractors, suppliers, and lessors of their EEO obligations under this contract.

b. The contractor will use good faith efforts to ensure subcontractor compliance with their EEO obligations.

10. Assurances Required:

a. The requirements of 49 CFR Part 26 and the State DOT's FHWA-approved Disadvantaged Business Enterprise (DBE) program are incorporated by reference.

b. The contractor, subrecipient or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR part 26 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the recipient deems appropriate, which may include, but is not limited to:

- (1) Withholding monthly progress payments;
- (2) Assessing sanctions;
- (3) Liquidated damages; and/or
- (4) Disqualifying the contractor from future bidding as non-responsible.

c. The Title VI and nondiscrimination provisions of U.S. DOT Order 1050.2A at Appendixes A and E are incorporated by reference. 49 CFR Part 21.

11. Records and Reports: The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following the date of the final payment to the contractor for all contract work and shall be available at reasonable times and places for inspection by authorized representatives of the contracting agency and the FHWA.

a. The records kept by the contractor shall document the following:

(1) The number and work hours of minority and non-minority group members and women employed in each work classification on the project;

(2) The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women; and

(3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minorities and women.

b. The contractors and subcontractors will submit an annual report to the contracting agency each July for the duration of the project indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on [Form FHWA-1391](#). The staffing data should represent the project work force on board in all or any part of the last payroll period preceding the end of July. If on-the-job training is being required by special provision, the contractor will be required to collect and report training data. The employment data should reflect the work force on board during all or any part of the last payroll period preceding the end of July.

III. NONSEGREGATED FACILITIES

This provision is applicable to all Federal-aid construction contracts and to all related construction subcontracts of more than \$10,000. 41 CFR 60-1.5.

As prescribed by 41 CFR 60-1.8, the contractor must ensure that facilities provided for employees are provided in such a manner that segregation on the basis of race, color, religion, sex, sexual orientation, gender identity, or national origin cannot result. The contractor may neither require such segregated use by written or oral policies nor tolerate such use by employee custom. The contractor's obligation extends further to ensure that its employees are not assigned to perform their services at any location under the contractor's control where the facilities are segregated. The term "facilities" includes waiting rooms, work areas, restaurants and other eating areas, time clocks, restrooms, washrooms, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing provided for employees. The contractor shall provide separate or single-user restrooms and necessary dressing or sleeping areas to assure privacy between sexes.

IV. DAVIS-BACON AND RELATED ACT PROVISIONS

This section is applicable to all Federal-aid construction projects exceeding \$2,000 and to all related subcontracts and lower-tier subcontracts (regardless of subcontract size), in accordance with 29 CFR 5.5. The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. 23 U.S.C. 113. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. 23 U.S.C. 101. Where applicable law requires that projects be treated as a project on a Federal-aid highway, the provisions of this subpart will apply regardless of the location of the project. Examples include: Surface Transportation Block Grant Program projects funded under 23 U.S.C. 133 [excluding recreational trails projects], the Nationally Significant Freight and Highway

Projects funded under 23 U.S.C. 117, and National Highway Freight Program projects funded under 23 U.S.C. 167.

The following provisions are from the U.S. Department of Labor regulations in 29 CFR 5.5 "Contract provisions and related matters" with minor revisions to conform to the FHWA- 1273 format and FHWA program requirements.

1. Minimum wages (29 CFR 5.5)

a. *Wage rates and fringe benefits.* All laborers and mechanics employed or working upon the site of the work (or otherwise working in construction or development of the project under a development statute), will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act ([29 CFR part 3](#))), the full amount of basic hourly wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics. As provided in paragraphs (d) and (e) of 29 CFR 5.5, the appropriate wage determinations are effective by operation of law even if they have not been attached to the contract. Contributions made or costs reasonably anticipated for bona fide fringe benefits under the Davis-Bacon Act ([40 U.S.C. 3141\(2\)\(B\)](#)) on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph 1.e. of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics must be paid the appropriate wage rate and fringe benefits on the wage determination for the classification(s) of work actually performed, without regard to skill, except as provided in paragraph 4. of this section. Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: *Provided*, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classifications and wage rates conformed under paragraph 1.c. of this section) and the Davis-Bacon poster (WH-1321) must be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

b. *Frequently recurring classifications.* (1) In addition to wage and fringe benefit rates that have been determined to be prevailing under the procedures set forth in [29 CFR part 1](#), a wage determination may contain, pursuant to § 1.3(f), wage and fringe benefit rates for classifications of laborers and mechanics for which conformance requests are regularly submitted pursuant to paragraph 1.c. of this section, provided that:

(i) The work performed by the classification is not performed by a classification in the wage determination for which a prevailing wage rate has been determined;

(ii) The classification is used in the area by the construction industry; and

(iii) The wage rate for the classification bears a reasonable relationship to the prevailing wage rates contained in the wage determination.

(2) The Administrator will establish wage rates for such classifications in accordance with paragraph 1.c.(1)(iii) of this section. Work performed in such a classification must be paid at no less than the wage and fringe benefit rate listed on the wage determination for such classification.

c. *Conformance.* (1) The contracting officer must require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract be classified in conformance with the wage determination. Conformance of an additional classification and wage rate and fringe benefits is appropriate only when the following criteria have been met:

(i) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(ii) The classification is used in the area by the construction industry; and

(iii) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(2) The conformance process may not be used to split, subdivide, or otherwise avoid application of classifications listed in the wage determination.

(3) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken will be sent by the contracting officer by email to DBAconformance@dol.gov. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(4) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer will, by email to DBAconformance@dol.gov, refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(5) The contracting officer must promptly notify the contractor of the action taken by the Wage and Hour Division

under paragraphs 1.c.(3) and (4) of this section. The contractor must furnish a written copy of such determination to each affected worker or it must be posted as a part of the wage determination. The wage rate (including fringe benefits where appropriate) determined pursuant to paragraph 1.c.(3) or (4) of this section must be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

d. *Fringe benefits not expressed as an hourly rate.*

Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor may either pay the benefit as stated in the wage determination or may pay another bona fide fringe benefit or an hourly cash equivalent thereof.

e. *Unfunded plans.* If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, *Provided*, That the Secretary of Labor has found, upon the written request of the contractor, in accordance with the criteria set forth in § 5.28, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

f. *Interest.* In the event of a failure to pay all or part of the wages required by the contract, the contractor will be required to pay interest on any underpayment of wages.

2. Withholding (29 CFR 5.5)

a. *Withholding requirements.* The contracting agency may, upon its own action, or must, upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor so much of the accrued payments or advances as may be considered necessary to satisfy the liabilities of the prime contractor or any subcontractor for the full amount of wages and monetary relief, including interest, required by the clauses set forth in this section for violations of this contract, or to satisfy any such liabilities required by any other Federal contract, or federally assisted contract subject to Davis-Bacon labor standards, that is held by the same prime contractor (as defined in § 5.2). The necessary funds may be withheld from the contractor under this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract that is subject to Davis-Bacon labor standards requirements and is held by the same prime contractor, regardless of whether the other contract was awarded or assisted by the same agency, and such funds may be used to satisfy the contractor liability for which the funds were withheld. In the event of a contractor's failure to pay any laborer or mechanic, including any apprentice or helper working on the site of the work all or part of the wages required by the contract, or upon the contractor's failure to submit the required records as discussed in paragraph 3.d. of this section, the contracting agency may on its own initiative and after written notice to the contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

b. *Priority to withheld funds.* The Department has priority to funds withheld or to be withheld in accordance with paragraph

2.a. of this section or Section V, paragraph 3.a., or both, over claims to those funds by:

- (1) A contractor's surety(ies), including without limitation performance bond sureties and payment bond sureties;
- (2) A contracting agency for its procurement costs;
- (3) A trustee(s) (either a court-appointed trustee or a U.S. trustee, or both) in bankruptcy of a contractor, or a contractor's bankruptcy estate;
- (4) A contractor's assignee(s);
- (5) A contractor's successor(s); or
- (6) A claim asserted under the Prompt Payment Act, [31 U.S.C. 3901–3907](#).

3. Records and certified payrolls (29 CFR 5.5)

a. Basic record requirements (1) Length of record retention. All regular payrolls and other basic records must be maintained by the contractor and any subcontractor during the course of the work and preserved for all laborers and mechanics working at the site of the work (or otherwise working in construction or development of the project under a development statute) for a period of at least 3 years after all the work on the prime contract is completed.

(2) Information required. Such records must contain the name; Social Security number; last known address, telephone number, and email address of each such worker; each worker's correct classification(s) of work actually performed; hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in [40 U.S.C. 3141\(2\)\(B\)](#) of the Davis-Bacon Act); daily and weekly number of hours actually worked in total and on each covered contract; deductions made; and actual wages paid.

(3) Additional records relating to fringe benefits. Whenever the Secretary of Labor has found under paragraph 1.e. of this section that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in [40 U.S.C. 3141\(2\)\(B\)](#) of the Davis-Bacon Act, the contractor must maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits.

(4) Additional records relating to apprenticeship. Contractors with apprentices working under approved programs must maintain written evidence of the registration of apprenticeship programs, the registration of the apprentices, and the ratios and wage rates prescribed in the applicable programs.

b. Certified payroll requirements (1) Frequency and method of submission. The contractor or subcontractor must submit weekly, for each week in which any DBA- or Related Acts-covered work is performed, certified payrolls to the contracting

agency. The prime contractor is responsible for the submission of all certified payrolls by all subcontractors. A contracting agency or prime contractor may permit or require contractors to submit certified payrolls through an electronic system, as long as the electronic system requires a legally valid electronic signature; the system allows the contractor, the contracting agency, and the Department of Labor to access the certified payrolls upon request for at least 3 years after the work on the prime contract has been completed; and the contracting agency or prime contractor permits other methods of submission in situations where the contractor is unable or limited in its ability to use or access the electronic system.

(2) Information required. The certified payrolls submitted must set out accurately and completely all of the information required to be maintained under paragraph 3.a.(2) of this section, except that full Social Security numbers and last known addresses, telephone numbers, and email addresses must not be included on weekly transmittals. Instead, the certified payrolls need only include an individually identifying number for each worker (e.g., the last four digits of the worker's Social Security number). The required weekly certified payroll information may be submitted using Optional Form WH-347 or in any other format desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division website at <https://www.dol.gov/sites/dolgov/files/WHDLegacy/files/wh347.pdf> or its successor website. It is not a violation of this section for a prime contractor to require a subcontractor to provide full Social Security numbers and last known addresses, telephone numbers, and email addresses to the prime contractor for its own records, without weekly submission by the subcontractor to the contracting agency.

(3) Statement of Compliance. Each certified payroll submitted must be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor, or the contractor's or subcontractor's agent who pays or supervises the payment of the persons working on the contract, and must certify the following:

(i) That the certified payroll for the payroll period contains the information required to be provided under paragraph 3.b. of this section, the appropriate information and basic records are being maintained under paragraph 3.a. of this section, and such information and records are correct and complete;

(ii) That each laborer or mechanic (including each helper and apprentice) working on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in [29 CFR part 3](#); and

(iii) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification(s) of work actually performed, as specified in the applicable wage determination incorporated into the contract.

(4) Use of Optional Form WH-347. The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 will satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 3.b.(3) of this section.

(5) *Signature.* The signature by the contractor, subcontractor, or the contractor's or subcontractor's agent must be an original handwritten signature or a legally valid electronic signature.

(6) *Falsification.* The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under [18 U.S.C. 1001](#) and [31 U.S.C. 3729](#).

(7) *Length of certified payroll retention.* The contractor or subcontractor must preserve all certified payrolls during the course of the work and for a period of 3 years after all the work on the prime contract is completed.

c. *Contracts, subcontracts, and related documents.* The contractor or subcontractor must maintain this contract or subcontract and related documents including, without limitation, bids, proposals, amendments, modifications, and extensions. The contractor or subcontractor must preserve these contracts, subcontracts, and related documents during the course of the work and for a period of 3 years after all the work on the prime contract is completed.

d. *Required disclosures and access* (1) *Required record disclosures and access to workers.* The contractor or subcontractor must make the records required under paragraphs 3.a. through 3.c. of this section, and any other documents that the contracting agency, the State DOT, the FHWA, or the Department of Labor deems necessary to determine compliance with the labor standards provisions of any of the applicable statutes referenced by § 5.1, available for inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and must permit such representatives to interview workers during working hours on the job.

(2) *Sanctions for non-compliance with records and worker access requirements.* If the contractor or subcontractor fails to submit the required records or to make them available, or refuses to permit worker interviews during working hours on the job, the Federal agency may, after written notice to the contractor, sponsor, applicant, owner, or other entity, as the case may be, that maintains such records or that employs such workers, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available, or to permit worker interviews during working hours on the job, may be grounds for debarment action pursuant to § 5.12. In addition, any contractor or other person that fails to submit the required records or make those records available to WHD within the time WHD requests that the records be produced will be precluded from introducing as evidence in an administrative proceeding under [29 CFR part 6](#) any of the required records that were not provided or made available to WHD. WHD will take into consideration a reasonable request from the contractor or person for an extension of the time for submission of records. WHD will determine the reasonableness of the request and may consider, among other things, the location of the records and the volume of production.

(3) *Required information disclosures.* Contractors and subcontractors must maintain the full Social Security number and last known address, telephone number, and email address

of each covered worker, and must provide them upon request to the contracting agency, the State DOT, the FHWA, the contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or other compliance action.

4. Apprentices and equal employment opportunity (29 CFR 5.5)

a. *Apprentices* (1) *Rate of pay.* Apprentices will be permitted to work at less than the predetermined rate for the work they perform when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship (OA), or with a State Apprenticeship Agency recognized by the OA. A person who is not individually registered in the program, but who has been certified by the OA or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice, will be permitted to work at less than the predetermined rate for the work they perform in the first 90 days of probationary employment as an apprentice in such a program. In the event the OA or a State Apprenticeship Agency recognized by the OA withdraws approval of an apprenticeship program, the contractor will no longer be permitted to use apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(2) *Fringe benefits.* Apprentices must be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringe benefits must be paid in accordance with that determination.

(3) *Apprenticeship ratio.* The allowable ratio of apprentices to journeyworkers on the job site in any craft classification must not be greater than the ratio permitted to the contractor as to the entire work force under the registered program or the ratio applicable to the locality of the project pursuant to paragraph 4.a.(4) of this section. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated in paragraph 4.a.(1) of this section, must be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under this section must be paid not less than the applicable wage rate on the wage determination for the work actually performed.

(4) *Reciprocity of ratios and wage rates.* Where a contractor is performing construction on a project in a locality other than the locality in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyworker's hourly rate) applicable within the locality in which the construction is being performed must be observed. If there is no applicable ratio or wage rate for the locality of the project, the ratio and wage rate specified in the contractor's registered program must be observed.

b. *Equal employment opportunity.* The use of apprentices and journeyworkers under this part must be in conformity with

the equal employment opportunity requirements of Executive Order 11246, as amended, and [29 CFR part 30](#).

c. Apprentices and Trainees (programs of the U.S. DOT).

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. 23 CFR 230.111(e)(2). The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeyworkers shall not be greater than permitted by the terms of the particular program.

5. Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract as provided in 29 CFR 5.5.

6. Subcontracts. The contractor or subcontractor must insert FHWA-1273 in any subcontracts, along with the applicable wage determination(s) and such other clauses or contract modifications as the contracting agency may by appropriate instructions require, and a clause requiring the subcontractors to include these clauses and wage determination(s) in any lower tier subcontracts. The prime contractor is responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in this section. In the event of any violations of these clauses, the prime contractor and any subcontractor(s) responsible will be liable for any unpaid wages and monetary relief, including interest from the date of the underpayment or loss, due to any workers of lower-tier subcontractors, and may be subject to debarment, as appropriate. 29 CFR 5.5.

7. Contract termination: debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

8. Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract as provided in 29 CFR 5.5.

9. Disputes concerning labor standards. As provided in 29 CFR 5.5, disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

10. Certification of eligibility. a. By entering into this contract, the contractor certifies that neither it nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of [40 U.S.C. 3144\(b\)](#) or § 5.12(a).

b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of [40 U.S.C. 3144\(b\)](#) or § 5.12(a).

c. The penalty for making false statements is prescribed in the U.S. Code, Title 18 Crimes and Criminal Procedure, [18 U.S.C. 1001](#).

11. Anti-retaliation. It is unlawful for any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, or to cause any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, any worker or job applicant for:

a. Notifying any contractor of any conduct which the worker reasonably believes constitutes a violation of the DBA, Related Acts, this part, or [29 CFR part 1](#) or [3](#);

b. Filing any complaint, initiating or causing to be initiated any proceeding, or otherwise asserting or seeking to assert on behalf of themselves or others any right or protection under the DBA, Related Acts, this part, or [29 CFR part 1](#) or [3](#);

c. Cooperating in any investigation or other compliance action, or testifying in any proceeding under the DBA, Related Acts, this part, or [29 CFR part 1](#) or [3](#); or

d. Informing any other person about their rights under the DBA, Related Acts, this part, or [29 CFR part 1](#) or [3](#).

V. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

Pursuant to 29 CFR 5.5(b), the following clauses apply to any Federal-aid construction contract in an amount in excess of \$100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by 29 CFR 5.5(a) or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchpersons and guards.

1. Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek. 29 CFR 5.5.

2. Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph 1. of this section the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages and interest from the date of the underpayment. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or

mechanic, including watchpersons and guards, employed in violation of the clause set forth in paragraph 1. of this section, in the sum currently provided in 29 CFR 5.5(b)(2)* for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph 1. of this section.

* \$31 as of January 15, 2023 (See 88 FR 88 FR 2210) as may be adjusted annually by the Department of Labor, pursuant to the Federal Civil Penalties Inflation Adjustment Act of 1990.

3. Withholding for unpaid wages and liquidated damages

a. *Withholding process.* The FHWA or the contracting agency may, upon its own action, or must, upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor so much of the accrued payments or advances as may be considered necessary to satisfy the liabilities of the prime contractor or any subcontractor for any unpaid wages; monetary relief, including interest; and liquidated damages required by the clauses set forth in this section on this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract subject to the Contract Work Hours and Safety Standards Act that is held by the same prime contractor (as defined in § 5.2). The necessary funds may be withheld from the contractor under this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract that is subject to the Contract Work Hours and Safety Standards Act and is held by the same prime contractor, regardless of whether the other contract was awarded or assisted by the same agency, and such funds may be used to satisfy the contractor liability for which the funds were withheld.

b. *Priority to withheld funds.* The Department has priority to funds withheld or to be withheld in accordance with Section IV paragraph 2.a. or paragraph 3.a. of this section, or both, over claims to those funds by:

- (1) A contractor's surety(ies), including without limitation performance bond sureties and payment bond sureties;
- (2) A contracting agency for its procurement costs;
- (3) A trustee(s) (either a court-appointed trustee or a U.S. trustee, or both) in bankruptcy of a contractor, or a contractor's bankruptcy estate;
- (4) A contractor's assignee(s);
- (5) A contractor's successor(s); or
- (6) A claim asserted under the Prompt Payment Act, [31 U.S.C. 3901](#)–3907.

4. Subcontracts. The contractor or subcontractor must insert in any subcontracts the clauses set forth in paragraphs 1. through 5. of this section and a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor is responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs 1. through 5. In the

event of any violations of these clauses, the prime contractor and any subcontractor(s) responsible will be liable for any unpaid wages and monetary relief, including interest from the date of the underpayment or loss, due to any workers of lower-tier subcontractors, and associated liquidated damages and may be subject to debarment, as appropriate.

5. Anti-retaliation. It is unlawful for any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, or to cause any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, any worker or job applicant for:

- a. Notifying any contractor of any conduct which the worker reasonably believes constitutes a violation of the Contract Work Hours and Safety Standards Act (CWHSSA) or its implementing regulations in this part;
- b. Filing any complaint, initiating or causing to be initiated any proceeding, or otherwise asserting or seeking to assert on behalf of themselves or others any right or protection under CWHSSA or this part;
- c. Cooperating in any investigation or other compliance action, or testifying in any proceeding under CWHSSA or this part; or
- d. Informing any other person about their rights under CWHSSA or this part.

VI. SUBLETTING OR ASSIGNING THE CONTRACT

This provision is applicable to all Federal-aid construction contracts on the National Highway System pursuant to 23 CFR 635.116.

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the contracting agency. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635.116).

a. The term "perform work with its own organization" in paragraph 1 of Section VI refers to workers employed or leased by the prime contractor, and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor or lower tier subcontractor, agents of the prime contractor, or any other assignees. The term may include payments for the costs of hiring leased employees from an employee leasing firm meeting all relevant Federal and State regulatory requirements. Leased employees may only be included in this term if the prime contractor meets all of the following conditions: (based on longstanding interpretation)

- (1) the prime contractor maintains control over the supervision of the day-to-day activities of the leased employees;
- (2) the prime contractor remains responsible for the quality of the work of the leased employees;

- (3) the prime contractor retains all power to accept or exclude individual employees from work on the project; and
- (4) the prime contractor remains ultimately responsible for the payment of predetermined minimum wages, the submission of payrolls, statements of compliance and all other Federal regulatory requirements.

b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid or propose on the contract as a whole and in general are to be limited to minor components of the overall contract. 23 CFR 635.102.

2. Pursuant to 23 CFR 635.116(a), the contract amount upon which the requirements set forth in paragraph (1) of Section VI is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.

3. Pursuant to 23 CFR 635.116(c), the contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the contracting officer determines is necessary to assure the performance of the contract.

4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the contracting agency has assured that each subcontract is evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract. (based on long-standing interpretation of 23 CFR 635.116).

5. The 30-percent self-performance requirement of paragraph (1) is not applicable to design-build contracts; however, contracting agencies may establish their own self-performance requirements. 23 CFR 635.116(d).

VII. SAFETY: ACCIDENT PREVENTION

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR Part 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract. 23 CFR 635.108.

2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and

health standards (29 CFR Part 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704). 29 CFR 1926.10.

3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704).

VIII. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, Form FHWA-1022 shall be posted on each Federal-aid highway project (23 CFR Part 635) in one or more places where it is readily available to all persons concerned with the project:

18 U.S.C. 1020 reads as follows:

"Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 11, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined under this title or imprisoned not more than 5 years or both."

IX. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT (42 U.S.C. 7606; 2 CFR 200.88; EO 11738)

This provision is applicable to all Federal-aid construction contracts in excess of \$150,000 and to all related subcontracts. 48 CFR 2.101; 2 CFR 200.327.

By submission of this bid/proposal or the execution of this contract or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, subcontractor, supplier, or vendor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act (42 U.S.C. 7401-7671q) and the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251-1387). Violations must be reported to the Federal Highway Administration and the Regional Office of the Environmental Protection Agency. 2 CFR Part 200, Appendix II.

The contractor agrees to include or cause to be included the requirements of this Section in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements. 2 CFR 200.327.

X. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, consultant contracts or any other covered transaction requiring FHWA approval or that is estimated to cost \$25,000 or more – as defined in 2 CFR Parts 180 and 1200. 2 CFR 180.220 and 1200.220.

1. Instructions for Certification – First Tier Participants:

a. By signing and submitting this proposal, the prospective first tier participant is providing the certification set out below.

b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this covered transaction. The prospective first tier participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective first tier participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction. 2 CFR 180.320.

c. The certification in this clause is a material representation of fact upon which reliance was placed when the contracting agency determined to enter into this transaction. If it is later determined that the prospective participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the contracting agency may terminate this transaction for cause of default. 2 CFR 180.325.

d. The prospective first tier participant shall provide immediate written notice to the contracting agency to whom this proposal is submitted if any time the prospective first tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances. 2 CFR 180.345 and 180.350.

e. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180, Subpart I, 180.900-180.1020, and 1200. "First Tier Covered Transactions" refers to any covered transaction between a recipient or subrecipient of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a recipient or subrecipient of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

f. The prospective first tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction. 2 CFR 180.330.

g. The prospective first tier participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transactions," provided by the department or contracting agency, entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold. 2 CFR 180.220 and 180.300.

h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. 2 CFR 180.300; 180.320, and 180.325. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. 2 CFR 180.335. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the System for Award Management website (<https://www.sam.gov>). 2 CFR 180.300, 180.320, and 180.325.

i. Nothing contained in the foregoing shall be construed to require the establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of the prospective participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

j. Except for transactions authorized under paragraph (f) of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default. 2 CFR 180.325.

* * * * *

2. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – First Tier Participants:

a. The prospective first tier participant certifies to the best of its knowledge and belief, that it and its principals:

(1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency, 2 CFR 180.335;.

(2) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State, or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property, 2 CFR 180.800;

(3) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (a)(2) of this certification, 2 CFR 180.700 and 180.800; and

(4) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default. 2 CFR 180.335(d).

(5) Are not a corporation that has been convicted of a felony violation under any Federal law within the two-year period preceding this proposal (USDOT Order 4200.6 implementing appropriations act requirements); and

(6) Are not a corporation with any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted, or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability (USDOT Order 4200.6 implementing appropriations act requirements).

b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant should attach an explanation to this proposal. 2 CFR 180.335 and 180.340.

* * * * *

3. Instructions for Certification - Lower Tier Participants:

(Applicable to all subcontracts, purchase orders, and other lower tier transactions requiring prior FHWA approval or estimated to cost \$25,000 or more - 2 CFR Parts 180 and 1200). 2 CFR 180.220 and 1200.220.

a. By signing and submitting this proposal, the prospective lower tier participant is providing the certification set out below.

b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which

this transaction originated may pursue available remedies, including suspension and/or debarment.

c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances. 2 CFR 180.365.

d. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180, Subpart I, 180.900 – 180.1020, and 1200. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations. "First Tier Covered Transactions" refers to any covered transaction between a recipient or subrecipient of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a recipient or subrecipient of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated. 2 CFR 1200.220 and 1200.332.

f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold. 2 CFR 180.220 and 1200.220.

g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the System for Award Management website (<https://www.sam.gov>), which is compiled by the General Services Administration. 2 CFR 180.300, 180.320, 180.330, and 180.335.

h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily

excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment. 2 CFR 180.325.

* * * * *

4. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Participants:

a. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals:

(1) is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency, 2 CFR 180.355;

(2) is a corporation that has been convicted of a felony violation under any Federal law within the two-year period preceding this proposal (USDOT Order 4200.6 implementing appropriations act requirements); and

(3) is a corporation with any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted, or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability. (USDOT Order 4200.6 implementing appropriations act requirements)

b. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant should attach an explanation to this proposal.

* * * * *

XI. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts which exceed \$100,000. 49 CFR Part 20, App. A.

1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or

cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

3. The prospective participant also agrees by submitting its bid or proposal that the participant shall require that the language of this certification be included in all lower tier subcontracts, which exceed \$100,000 and that all such recipients shall certify and disclose accordingly.

XII. USE OF UNITED STATES-FLAG VESSELS:

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, or any other covered transaction. 46 CFR Part 381.

This requirement applies to material or equipment that is acquired for a specific Federal-aid highway project. 46 CFR 381.7. It is not applicable to goods or materials that come into inventories independent of an FHWA funded-contract.

When oceanic shipments (or shipments across the Great Lakes) are necessary for materials or equipment acquired for a specific Federal-aid construction project, the bidder, proposer, contractor, subcontractor, or vendor agrees:

1. To utilize privately owned United States-flag commercial vessels to ship at least 50 percent of the gross tonnage (computed separately for dry bulk carriers, dry cargo liners, and tankers) involved, whenever shipping any equipment, material, or commodities pursuant to this contract, to the extent such vessels are available at fair and reasonable rates for United States-flag commercial vessels. 46 CFR 381.7.

2. To furnish within 20 days following the date of loading for shipments originating within the United States or within 30 working days following the date of loading for shipments originating outside the United States, a legible copy of a rated, 'on-board' commercial ocean bill-of-lading in English for each shipment of cargo described in paragraph (b)(1) of this section to both the Contracting Officer (through the prime contractor in the case of subcontractor bills-of-lading) and to the Office of Cargo and Commercial Sealift (MAR-620), Maritime Administration, Washington, DC 20590. (MARAD requires copies of the ocean carrier's (master) bills of lading, certified onboard, dated, with rates and charges. These bills of lading may contain business sensitive information and therefore may be submitted directly to MARAD by the Ocean Transportation Intermediary on behalf of the contractor). 46 CFR 381.7.

**ATTACHMENT A - EMPLOYMENT AND MATERIALS
PREFERENCE FOR APPALACHIAN DEVELOPMENT HIGHWAY
SYSTEM OR APPALACHIAN LOCAL ACCESS**

ROAD CONTRACTS (23 CFR 633, Subpart B, Appendix B)

This provision is applicable to all Federal-aid projects funded under the Appalachian Regional Development Act of 1965.

1. During the performance of this contract, the contractor undertaking to do work which is, or reasonably may be, done as on-site work, shall give preference to qualified persons who regularly reside in the labor area as designated by the DOL wherein the contract work is situated, or the subregion, or the Appalachian counties of the State wherein the contract work is situated, except:

a. To the extent that qualified persons regularly residing in the area are not available.

b. For the reasonable needs of the contractor to employ supervisory or specially experienced personnel necessary to assure an efficient execution of the contract work.

c. For the obligation of the contractor to offer employment to present or former employees as the result of a lawful collective bargaining contract, provided that the number of nonresident persons employed under this subparagraph (1c) shall not exceed 20 percent of the total number of employees employed by the contractor on the contract work, except as provided in subparagraph (4) below.

2. The contractor shall place a job order with the State Employment Service indicating (a) the classifications of the laborers, mechanics and other employees required to perform the contract work, (b) the number of employees required in each classification, (c) the date on which the participant estimates such employees will be required, and (d) any other pertinent information required by the State Employment Service to complete the job order form. The job order may be placed with the State Employment Service in writing or by telephone. If during the course of the contract work, the information submitted by the contractor in the original job order is substantially modified, the participant shall promptly notify the State Employment Service.

3. The contractor shall give full consideration to all qualified job applicants referred to him by the State Employment Service. The contractor is not required to grant employment to any job applicants who, in his opinion, are not qualified to perform the classification of work required.

4. If, within one week following the placing of a job order by the contractor with the State Employment Service, the State Employment Service is unable to refer any qualified job applicants to the contractor, or less than the number requested, the State Employment Service will forward a certificate to the contractor indicating the unavailability of applicants. Such certificate shall be made a part of the contractor's permanent project records. Upon receipt of this certificate, the contractor may employ persons who do not normally reside in the labor area to fill positions covered by the certificate, notwithstanding the provisions of subparagraph (1c) above.

5. The provisions of 23 CFR 633.207(e) allow the contracting agency to provide a contractual preference for the use of mineral resource materials native to the Appalachian region.

6. The contractor shall include the provisions of Sections 1 through 4 of this Attachment A in every subcontract for work which is, or reasonably may be, done as on-site work.