# PRE-FINAL SPECIAL PROVISIONS

# (F.A.P. 520) BLISS ROAD OVER BLACKBERRY CREEK

**SUGAR GROVE TOWNSHIP, KANE COUNTY**

**SECTION NO. 08-00058-02-BR**

**PROJECT NO. BHOS-0089(126)**

**JOB NO. C-91-339-07**

**June 8, 2016**

Prepared for:
Kane County Division of Transportation

By:
WBK Engineering, LLC
St. Charles, Illinois

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FOR
SUPPLEMENTAL SPECIFICATIONS
AND RECURRING SPECIAL PROVISIONS

Adopted April 1, 2016

This index contains a listing of SUPPLEMENTAL SPECIFICATIONS, frequently used RECURRING SPECIAL PROVISIONS, and LOCAL ROADS AND STREETS RECURRING SPECIAL PROVISIONS.

No ERRATA this year.

SUPPLEMENTAL SPECIFICATIONS

CHECK SHEET
FOR
RECURRING SPECIAL PROVISIONS

Adopted April 1, 2016

The following RECURRING SPECIAL PROVISIONS indicated by an "X" are applicable to this contract and are included by reference:

RECURRING SPECIAL PROVISIONS

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CHECK SHEET
FOR
LOCAL ROADS AND STREETS RECURRING SPECIAL PROVISIONS

Adopted April 1, 2016

The following LOCAL ROADS AND STREETS RECURRING SPECIAL PROVISIONS indicated by an "X" are applicable to this contract and are included by reference:

LOCAL ROADS AND STREETS RECURRING SPECIAL PROVISIONS

BDE SPECIAL PROVISIONS
For the July 29 and September 16, 2016 Lettings

The following special provisions indicated by an "x" are applicable to this contract and will be included by the Project Development and Implementation Section of the BD&E. An * indicates a new or revised special provision for the letting.

| | File Name | # | | Special Provision Title | Effective | Revised |
|---|---|---|---|---|---|---|
| | 80099 | 1 | | Accessible Pedestrian Signals (APS) | April 1, 2003 | Jan. 1, 2014 |
| | 80274 | 2 | | Aggregate Subgrade Improvement | April 1, 2012 | April 1, 2016 |
| | 80192 | 3 | | Automated Flagger Assistance Device | Jan. 1, 2008 | |
| | 80173 | 4 | ✔ | Bituminous Materials Cost Adjustments | Nov. 2, 2006 | July 1, 2015 |
| | 80241 | 5 | | Bridge Demolition Debris | July 1, 2009 | |
| | 5026I | 6 | | Building Removal-Case I (Non-Friable and Friable Asbestos) | Sept. 1, 1990 | April 1, 2010 |
| | 5048I | 7 | | Building Removal-Case II (Non-Friable Asbestos) | Sept. 1, 1990 | April 1, 2010 |
| | 5049I | 8 | | Building Removal-Case III (Friable Asbestos) | Sept. 1, 1990 | April 1, 2010 |
| | 5053I | 9 | | Building Removal-Case IV (No Asbestos) | Sept. 1, 1990 | April 1, 2010 |
| * | 80366 | 10 | ✔ | Butt Joints | July 1, 2016 | |
| | 80360 | 11 | ✔ | Coarse Aggregate Quality | July 1, 2015 | |
| | 80198 | 12 | | Completion Date (via calendar days) | April 1, 2008 | |
| | 80199 | 13 | | Completion Date (via calendar days) Plus Working Days | April 1, 2008 | |
| * | 80293 | 14 | | Concrete Box Culverts with Skews > 30 Degrees and Design Fills ≤ 5 Feet | April 1, 2012 | July 1, 2016 |
| | 80311 | 15 | | Concrete End Sections for Pipe Culverts | Jan. 1, 2013 | April 1, 2016 |
| | 80277 | 16 | | Concrete Mix Design – Department Provided | Jan. 1, 2012 | April 1, 2016 |
| | 80261 | 17 | ✔ | Construction Air Quality – Diesel Retrofit | June 1, 2010 | Nov. 1, 2014 |
| | 80029 | 18 | ✔ | Disadvantaged Business Enterprise Participation | Sept. 1, 2000 | Jan. 2, 2016 |
| | 80363 | 19 | ✔ | Engineer's Field Office | April 1, 2016 | |
| | 80358 | 20 | ✔ | Equal Employment Opportunity | April 1, 2015 | |
| | 80364 | 21 | ✔ | Errata for the 2016 Standard Specifications | April 1, 2016 | |
| | 80229 | 22 | ✔ | Fuel Cost Adjustment | April 1, 2009 | July 1, 2015 |
| | 80304 | 23 | | Grooving for Recessed Pavement Markings | Nov. 1, 2012 | Aug. 1, 2014 |
| | 80246 | 24 | ✔ | Hot-Mix Asphalt – Density Testing of Longitudinal Joints | Jan. 1, 2010 | April 1, 2016 |
| | 80347 | 25 | | Hot-Mix Asphalt – Pay for Performance Using Percent Within Limits – Jobsite Sampling | Nov. 1, 2014 | April 1, 2016 |
| * | 80367 | 26 | | Light Poles | July 1, 2016 | |
| * | 80368 | 27 | | Light Tower | July 1, 2016 | |
| | 80336 | 28 | | Longitudinal Joint and Crack Patching | April 1, 2014 | April 1, 2016 |
| * | 80369 | 29 | | Mast Arm Assembly and Pole | July 1, 2016 | |
| | 80045 | 30 | | Material Transfer Device | June 15, 1999 | Aug. 1, 2014 |
| | 80342 | 31 | | Mechanical Side Tie Bar Inserter | Aug. 1, 2014 | April 1, 2016 |
| * | 80370 | 32 | ✔ | Mechanical Splicers | July 1, 2016 | |
| | 80165 | 33 | | Moisture Cured Urethane Paint System | Nov. 1, 2006 | Jan. 1, 2010 |
| | 80361 | 34 | | Overhead Sign Structures Certification of Metal Fabricator | Nov. 1, 2015 | April 1, 2016 |
| | 80349 | 35 | | Pavement Marking Blackout Tape | Nov. 1, 2014 | April 1, 2016 |
| * | 80371 | 36 | ✔ | Pavement Marking Removal | July 1, 2016 | |
| | 80298 | 37 | | Pavement Marking Tape Type IV | April 1, 2012 | April 1, 2016 |
| | 80365 | 38 | | Pedestrian Push-Button | April 1, 2016 | |
| * | 80372 | 39 | | Preventive Maintenance – Bituminous Surface Treatment (A-1) | Jan. 1, 2009 | July 1, 2016 |
| * | 80373 | 40 | | Preventive Maintenance – Cape Seal | Jan. 1, 2009 | July 1, 2016 |
| * | 80374 | 41 | | Preventive Maintenance – Micro-Surfacing | Jan. 1, 2009 | July 1, 2016 |
| * | 80375 | 42 | | Preventive Maintenance – Slurry Seal | Jan. 1, 2009 | July 1, 2016 |
| * | 80359 | 43 | | Portland Cement Concrete Bridge Deck Curing | April 1, 2015 | July 1, 2016 |
| | 80353 | 44 | | Portland Cement Concrete Inlay or Overlay | Jan. 1, 2015 | April 1, 2016 |

| File Name | # | | Special Provision Title | Effective | Revised |
|---|---|---|---|---|---|
| 80338 | 45 | | Portland Cement Concrete Partial Depth Hot-Mix Asphalt Patching | April 1, 2014 | April 1, 2016 |
| 80300 | 46 | | Preformed Plastic Pavement Marking Type D - Inlaid | April 1, 2012 | April 1, 2016 |
| 80328 | 47 | ✔ | Progress Payments | Nov. 2, 2013 | |
| 3426I | 48 | | Railroad Protective Liability Insurance | Dec. 1, 1986 | Jan. 1, 2006 |
| 80157 | 49 | | Railroad Protective Liability Insurance (5 and 10) | Jan. 1, 2006 | |
| 80306 | 50 | | Reclaimed Asphalt Pavement (RAP) and Reclaimed Asphalt Shingles (RAS) | Nov. 1, 2012 | April 1, 2016 |
| 80340 | 51 | | Speed Display Trailer | April 2, 2014 | April 1, 2016 |
| 80127 | 52 | ✔ | Steel Cost Adjustment | April 2, 2004 | July 1, 2015 |
| 80362 | 53 | ✔ | Steel Slag in Trench Backfill | Jan. 1, 2016 | |
| 80317 | 54 | | Surface Testing of Hot-Mix Asphalt Overlays | Jan. 1, 2013 | April 1, 2016 |
| 80355 | 55 | ✔ | Temporary Concrete Barrier | Jan. 1, 2015 | July 1, 2015 |
| 20338 | 56 | ✔ | Training Special Provisions | Oct. 15, 1975 | |
| 80318 | 57 | | Traversable Pipe Grate | Jan. 1, 2013 | April 1, 2014 |
| 80288 | 58 | ✔ | Warm Mix Asphalt | Jan. 1, 2012 | April 1, 2016 |
| 80302 | 59 | ✔ | Weekly DBE Trucking Reports | June 2, 2012 | April 2, 2015 |
| 80289 | 60 | | Wet Reflective Thermoplastic Pavement Marking | Jan. 1, 2012 | |
| 80071 | 61 | ✔ | Working Days | Jan. 1, 2002 | |

The following special provisions and recurring special provisions are in the 2016 Standard Specifications.

| File Name | Special Provision Title | New Location | Effective | Revised |
|---|---|---|---|---|
| 80240 | Above Grade Inlet Protection | Articles 280.02, 280.04, and 1081.15 | July 1, 2009 | Jan. 1, 2012 |
| 80310 | Coated Galvanized Steel Conduit | Article 811.03 | Jan. 1, 2013 | Jan. 1, 2015 |
| 80341 | Coilable Nonmetallic Conduit | Article 1088.01 | Aug. 1, 2014 | Jan. 1, 2015 |
| 80294 | Concrete Box Culverts with Skews ≤ 30 Degrees Regardless of Design Fill and Skews > 30 Degrees with Design Fills > 5 Feet | Article 540.04 | April 1, 2012 | April 1, 2014 |
| 80334 | Concrete Gutter, Curb, Median, and Paved Ditch | Articles 606.02, 606.07, and 1050.04 | April 1, 2014 | Aug. 1, 2014 |
| 80335 | Contract Claims | Article 109.09 | April 1, 2014 | |
| Chk Sht #27 | English Substitution of Metric Reinforcement Bars | Article 508.09 | April 1, 1996 | Jan. 1, 2011 |
| 80265 | Friction Aggregate | Articles 1004.01 and 1004.03 | Jan. 1, 2011 | Nov. 1, 2014 |
| 80329 | Glare Screen | Sections 638 and 1085 | Jan. 1, 2014 | |
| Chk Sht #20 | Guardrail and Barrier Wall Delineation | Sections 635, 725, 782, and 1097 | Dec. 15, 1993 | Jan. 1, 2012 |
| 80322 | Hot-Mix Asphalt – Mixture Design Composition and Volumetric Requirements | Sections 312, 355, 406, 407, 442, 482, 601, 1003, 1004, 1030, and 1102 | Nov. 1, 2013 | Nov. 1, 2014 |
| 80323 | Hot-Mix Asphalt – Mixture Design Verification and Production | Sections 406, 1030, and 1102 | Nov. 1, 2013 | Nov. 1, 2014 |
| 80348 | Hot-Mix Asphalt – Prime Coat | Sections 403, 406, 407, 408, 1032, and 1102 | Nov. 1, 2014 | |
| 80315 | Insertion Lining of Culverts | Sections 543 and 1029 | Jan. 1, 2013 | Nov. 1, 2013 |
| 80351 | Light Tower | Article 1069.08 | Jan. 1, 2015 | |
| 80324 | LRFD Pipe Culvert Burial Tables | Sections 542 and 1040 | Nov. 1, 2013 | April 1, 2015 |
| 80325 | LRFD Storm Sewer Burial Tables | Sections 550 and 1040 | Nov. 1, 2013 | April 1, 2015 |
| 80337 | Paved Shoulder Removal | Article 440.07 | April 1, 2014 | |
| 80254 | Pavement Patching | Article 701.17 | Jan. 1, 2010 | |
| 80352 | Pavement Striping - Symbols | Article 780.14 | Jan. 1, 2015 | |

| File Name | Special Provision Title | New Location | Effective | Revised |
|---|---|---|---|---|
| Chk Sht #19 | Pipe Underdrains | Section 601 and Articles 1003.01, 1003.04, 1004.05, 1040.06, and 1080.05 | Sept. 9, 1987 | Jan. 1, 2007 |
| 80343 | Precast Concrete Handhole | Articles 814.02, 814.03, and 1042.17 | Aug. 1, 2014 | |
| 80350 | Retroreflective Sheeting for Highway Signs | Article 1091.03 | Nov. 1, 2014 | |
| 80327 | Reinforcement Bars | Section 508 and Articles 421.04, 442.06, 1006.10 | Nov. 1, 2013 | |
| 80344 | Rigid Metal Conduit | Article 1088.01 | Aug. 1, 2014 | |
| 80354 | Sidewalk, Corner, or Crosswalk Closure | Article 1106.02 | Jan. 1, 2015 | April 1, 2015 |
| 80301 | Tracking the Use of Pesticides | Article 107.23 | Aug. 1, 2012 | |
| 80356 | Traffic Barrier Terminals Type 6 or 6B | Article 631.02 | Jan. 1, 2015 | |
| 80345 | Underpass Luminaire | Articles 821.06 and 1067.04 | Aug. 1, 2014 | April 1, 2015 |
| 80357 | Urban Half Road Closure with Mountable Median | Articles 701.18, 701.19, and 701.20 | Jan. 1, 2015 | July 1, 2015 |
| 80346 | Waterway Obstruction Warning Luminaire | Article 1067.07 | Aug. 1, 2014 | April 1, 2015 |

The following special provisions require additional information from the designer. The additional information needs to be included in a separate document attached to this check sheet. The Project Development and Implementation section will then include the information in the applicable special provision. The Special Provisions are:

- Bridge Demolition Debris
- Building Removal-Case I
- Building Removal-Case II
- Building Removal-Case III
- Building Removal-Case IV
- Completion Date
- Completion Date Plus Working Days
- DBE Participation
- Material Transfer Device
- Railroad Protective Liability Insurance
- Training Special Provisions
- Working Days

**GUIDE BRIDGE SPECIAL PROVISION INDEX/CHECK SHEET**

Effective as of the: July 29, 2016 Letting

| √ | File Name | Title | Effective | Revised |
|---|---|---|---|---|
| | GBSP4 | Polymer Modified Portland Cement Mortar | Jun 7, 1994 | Apr 1, 2016 |
| | GBSP12 | Drainage System | Jun 10, 1994 | Jun 24, 2015 |
| | GBSP13 | High-Load Multi-Rotational Bearings | Oct 13, 1988 | Apr 1, 2016 |
| | GBSP14 | Jack and Remove Existing Bearings | Apr 20, 1994 | Jan 1, 2007 |
| | GBSP15 | Three Sided Precast Concrete Structure | Jul 12, 1994 | Dec 29, 2014 |
| | GBSP16 | Jacking Existing Superstructure | Jan 11, 1993 | Jan 1, 2007 |
| | GBSP17 | Bonded Preformed Joint Seal | Jul 12, 1994 | Jan 1, 2007 |
| | GBSP18 | Modular Expansion Joint | May 19, 1994 | Dec 29, 2014 |
| | GBSP21 | Cleaning and Painting Contact Surface Areas of Existing Steel Structures | Jun 30, 2003 | May 18, 2011 |
| | GBSP25 | Cleaning and Painting Existing Steel Structures | Oct 2, 2001 | Apr 22, 2016 |
| | GBSP26 | Containment and Disposal of Lead Paint Cleaning Residues | Oct 2, 2001 | Apr 22, 2016 |
| | GBSP28 | Deck Slab Repair | May 15, 1995 | Oct 15, 2011 |
| | GBSP29 | Bridge Deck Microsilica Concrete Overlay | May 15, 1995 | Apr 1, 2016 |
| | GBSP30 | Bridge Deck Latex Concrete Overlay | May 15, 1995 | Jun 24, 2015 |
| | GBSP31 | Bridge Deck High-Reactivity Metakaolin (HRM) Conc Overlay | Jan 21, 2000 | Apr 1, 2016 |
| | GBSP33 | Pedestrian Truss Superstructure | Jan 13, 1998 | Dec 29, 2014 |
| | GBSP34 | Concrete Wearing Surface | Jun 23, 1994 | Apr 1, 2016 |
| | GBSP35 | Silicone Bridge Joint Sealer | Aug 1, 1995 | Oct 15, 2011 |
| | GBSP45 | Bridge Deck Thin Polymer Overlay | May 7, 1997 | Feb 6, 2013 |
| ✔ | GBSP51 | Pipe Underdrain for Structures | May 17, 2000 | Jan 22, 2010 |
| | GBSP53 | Structural Repair of Concrete | Mar 15, 2006 | Apr 1, 2016 |
| | GBSP55 | Erection of Curved Steel Structures | Jun 1, 2007 | |
| | GBSP56 | Setting Piles in Rock | Nov 14, 1996 | Apr 1, 2016 |
| | GBSP59 | Diamond Grinding and Surface Testing Bridge Sections | Dec 6, 2004 | Jan 3, 2014 |
| | GBSP60 | Containment and Disposal of Non-Lead Paint Cleaning Residues | Nov 25, 2004 | Apr 22, 2016 |
| | GBSP61 | Slipform Parapet | Jun 1, 2007 | Apr 22, 2016 |
| | GBSP67 | Structural Assessment Reports for Contractor's Means and Methods | Mar 6, 2009 | Oct 5, 2015 |
| | GBSP71 | Aggregate Column Ground Improvement | Jan 15, 2009 | Oct 15, 2011 |
| | GBSP72 | Bridge Deck Fly Ash or GGBF Slag Concrete Overlay | Jan 18, 2011 | Jun 24, 2015 |
| | GBSP73 | Cofferdams | Oct 15, 2011 | |
| | GBSP75 | Bond Breaker for Prestressed Concrete Bulb-T Beams | Apr 19, 2012 | |
| ✔ | GBSP76 | Granular Backfill for Structures | Apr 19, 2012 | Oct 30, 2012 |
| | GBSP77 | Weep Hole Drains for Abutments, Wingwalls, Retaining Walls and Culverts | Apr 19, 2012 | Oct 22, 2013 |
| | GBSP78 | Bridge Deck Construction | Oct 22, 2013 | Apr 1, 2016 |
| | GBSP79 | Bridge Deck Grooving (Longitudinal) | Dec 29, 2014 | Apr 1, 2016 |
| | GBSP84 | Precast, Prestressed Concrete Beams | Oct 5, 2015 | |
| | GBSP85 | Micropiles | Apr 19, 1996 | Oct 5, 2015 |
| | GBSP86 | Drilled Shafts | Oct 5, 2015 | Apr 1, 2016 |
| | GBSP87 | Lightweight Cellular Concrete Fill | Nov 11, 2001 | Apr 1, 2016 |
| | GBSP88 | Corrugated Structural Plate Structures | Apr 22, 2016 | |
| | | | | |

LIST ADDITIONAL SPECIAL PROVISIONS BELOW

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|---|
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| |

The following Guide Bridge Special Provisions have been incorporated into the 2016 Standard Specifications:

| File Name | Title | Std Spec Location |
|---|---|---|
| GBSP32 | Temporary Sheet Piling | 522 |
| GBSP38 | Mechanically Stabilized Earth Retaining Walls | 522 |
| GBSP42 | Drilled Soldier Pile Retaining Wall | 522 |
| GBSP43 | Driven Soldier Pile Retaining Wall | 522 |
| GBSP44 | Temporary Soil Retention System | 522 |
| GBSP46 | Geotextile Retaining Walls | 522 |
| GBSP57 | Temporary Mechanically Stabilized Earth Retaining Walls | 522 |
| GBSP62 | Concrete Deck Beams | 504 |
| GBSP64 | Segmental Concrete Block Wall | 522 |
| GBSP65 | Precast Modular Retaining Wall | 522 |
| GBSP74 | Permanent Steel Sheet Piling (LRFD) | 522 |
| GBSP80 | Fabric Reinforced Elastomeric | 1028 |

The following Guide Bridge Special Provisions have been discontinued or have been superseded:

| File Name | Title | Disposition: |
|---|---|---|
| GBSP70 | Braced Excavation | Use TSRS per Sec 522 |
| | | |
| | | |
| | | |
| | | |

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DESCRIPTION PAGE

BDE SPECIAL PROVISIONS

GUIDE BRIDGE SPECIAL PROVISIONS

STORM WATER POLLUTION PREVENTION PLAN (SWPPP)

NOTICE OF INTENT (NOI)

LPC 662 FORM

PERMITS:

REGULATED FLOODWAY CONSTRUCTION PERMIT (IDOT)
ARMY CORPS OF ENGINEERS (ACOE)
KANE-DUPAGE STORM WATER CONSERVATION DISTRICT (KDSWCD)
KANE COUNTY STORM WATER PERMIT (SELF-CERTIFICATION STATEMENT)

PARTIAL STRUCTURE GEOTECHNICAL REPORT: DATED MARCH 1, 2012 (BY TESTING SERVICE CORPORATION)

PARTIAL REPORT OF SOILS EXPLORATION: DATED MAY 13, 2015 (BY TESTING SERVICE CORPORATION)

SOIL SAMPLING AND pH ANALYSIS: DATED MAY 19, 2015 (BY TESTING SERVICE CORPORATION)

STATE OF ILLINOIS
SPECIAL PROVISIONS

The following Special Provisions supplement the "Standard Specifications for Road and Bridge Construction", adopted April 1, 2016, 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 Contract No. **XXXXX**, Section 08-00058-02-BR, Project BHOS-0089(126), Job No. C-91-162-09 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

The project is located along the centerline of Bliss Road approximately 0.21 mile northeast of the intersection of Bliss Road and Illinois Route 47 and extends in the northerly direction in Sugar Grove Township. The net and gross length of the improvement is 1,815 feet (0.344 mile).

## DESCRIPTION OF PROJECT

The work consists of bridge removal, new bridge, piers and approach slab construction, pavement removal and reconstruction, placement of embankment, shoulder construction, storm sewers, water main and appurtenances, guardrail installation, placement of pavement marking, landscaping and all incidental and collateral work necessary to complete the project as shown on plans and as described herein.

**COMPLETION DATE PLUS WORKING DAYS**
Effective: September 30, 1985
Revised: January 1, 2007

Revise Article 108.05 (b) of the Standard Specifications as follows:

"When a completion date plus working days is specified, the Contractor shall complete all contract items and safely open all roadways to traffic by 11:59 PM on **October 27, 2017** except as specified herein. This work shall include final surface courses, guardrail, pavement markings and signing and all lanes of traffic open.

Interim Completion Dates will be required for this contract.

There will be an interim date for the removal of all trees, chain link fence removal and chain link fence replacement, and installation of the proposed water main and appurtenances no later than **March 31, 2017**. These items of work need to be completed as they are critical to the overall project schedule to satisfy permit conditions requiring that trees be removed outside of the roosting season of the Northern Long Eared Bat and to allow for the relocation of the Commonwealth Edison overhead facility from the westerly side of the roadway to the easterly side of the roadway. The water mains are critical mains to the Village of Sugar Grove water supply and there are certain times of the year where they cannot have these water mains out of service. The roadway will remain open during these operations unless otherwise approved by the Engineer.

There will be an interim date for the construction of the water main and appurtenances. The water main will need to be constructed and operational no later than **April 15, 2017**. The water mains are critical mains to the Village of Sugar Grove water supply and there are certain times of the year where they cannot have these mains out of service. The roadways will remain open during this operation unless otherwise approved by the Engineer.

At the beginning of Stage 2, the Contractor will be required to expedite a portion of the Stage 2 work, referred herein to and in the plans, as Stage 2A. The Contractor shall complete Stage 2A which includes Bliss Road improvements from Sta, 10+00 to Sta. 14+00 left of centerline, including the Village Bible Church entrance which will be open to traffic at the end of Stage 2A. The Stage 2A work will need to be constructed and operational no later than **September 5, 2017**. The pavement and driveway in Stage 2A need only to be paved with the HMA binder course at the completion of this stage.

The Contractor will be allowed to complete all seeding and tree planting operations requiring planting between October 15 to December 1, erosion control blanket for same, right-of-way corner, trees and remaining clean-up work and punch list items within **10** working days after the completion date for opening the roadway to traffic. Under extenuating circumstances the Engineer may direct that certain items of work, not affecting the safe opening of the roadway to traffic, may be completed within the working days allowed for restoration, permanent striping, cleanup work and punch list items. Temporary lane closures for this work may be allowed at the discretion of the Engineer.

Article 108.09 or the Special Provision for “Failure to Complete the Work on Time”, if included in this contract, shall apply to both the interim and completion date and the number of working days.

**GEOTECHNICAL REPORT**

Partial Geotechnical Reports have been included as part of the contract documents. The reports were completed by Testing Service Corporation, Ltd. The partial reports included are as follows:

Report of Soils Exploration: May 13, 2015
Structural Geotechnical Report: March 1, 2012

THOSE SEEKING THE FULL GEOTECHNICAL REPORT SHOULD CONTACT THE OWNER OF RECORD. TO MAKE ARRANGEMENTS FOR ACCESS TO THIS INFORMATION PLEASE CONTACT:

JENNIFER O'CONNELL, PE
PROJECT MANAGER
630-584-1170

**EARTH EXCAVATION**

This item shall be completed in accordance with the applicable portions of Section 202 of the Standard Specifications with the following general additions. This work shall include removal of all earth material shown on the cross sections or as directed by the Engineer. Earth Excavation will also include all aggregate base courses, aggregate sub-bases and aggregate surfaces and shoulders. Earth excavation will not include the excavation of topsoil, unsuitable materials, and removal items for existing bituminous and concrete pavements, driveways and shoulders.

**For this project, it is the intention of this specification to pay for the handling of earthwork material only once, regardless of staging or Contractor's operations.** The Contractor shall be responsible for his earthwork operations for excavating and stockpile excavated materials for re-handling at a later date. This applies to all excavated material to be used in embankments, shoulders or as topsoil re-spread.

Temporary earth stockpiles will not be allowed on the adjacent properties without the permission of the owner and approval of the Engineer. It will be the contractor's responsibility to acquire permission from the appropriate owner prior to stock piling any materials on those properties. The contractor will provide the Engineer with a written statement from the property owner stating said permission has been granted. This work will be considered part of the contract. As such, if the Contractor chooses to do this work as part of the close out or punch list work, contract days will continue to be counted until all stockpiles are removed and all disturbed areas are restored to at least to their original condition.

A shrinkage Factor of 15% was used for this Project.

Overhaul will not be paid for separately but shall be INCLUDED in the unit price per Cubic Yard for EARTH EXCAVATION.

**TEMPORARY ACCESS**

Description: The work shall consist of the construction and maintenance aggregate surface course for temporary access to private entrances and commercial entrances according to Section 402 of the Standard Specifications and as directed by the Engineer.

The aggregate surface course shall be constructed to the dimensions and grades specified below, except as modified by the plans or as directed by the Engineer. The use of existing onsite aggregate is permitted.

(a) Private Entrance. The minimum width shall be twelve (12) feet. The minimum compacted thickness shall be 6 inch. The maximum grade shall be eight percent, except as required to match the existing grade.

(b) Commercial Entrance. The minimum width shall be 24 feet. The minimum compacted thickness shall be 9 in. The maximum grade shall be six percent, except as required to match the existing grade.

Maintaining the temporary access shall include relocating and/or re-grading the aggregate surface coarse for any operation that may disturb or remove the temporary access. The same type and gradation of material used to construct the temporary access shall be used to maintain it. The Contractor shall maintain roadway access to the entrances. Maintaining roadway access will not be measured for payment.

When use of the temporary access is discontinued, the aggregate shall be removed and utilized in the permanent construction or disposed of according to Article 202.03.

Basis of Payment: Aggregate surface course for temporary access will be measured for payment as Each for every private entrance and commercial entrance constructed for the purpose of temporary access. Aggregate surface course for temporary access will be paid for at the contract unit price per Each for TEMPORARY ACCESS (PRIVATE ENTRANCE) or TEMPORARY ACCESS (COMMERCIAL ENTRANCE).

If a residential drive or commercial entrance is to be constructed under multiple stages, the aggregate needed to construct the second or subsequent stages will not be measured for payment but shall be included in the cost per each of the type specified.

Partial payment of the each amount bid for temporary access, of the type specified, will be paid according to the following schedule:

(a) Upon construction of the temporary access, sixty (60) percent of the contract unit price per each, of the type constructed, will be paid.

(b) Subject to the approval of the Engineer for the adequate maintenance and removal of the temporary access, the remaining forty percent of the pay item will be paid upon the permanent removal of the temporary access.

**STABILIZED CONSTRUCTION ENTRANCE**

Description: The work shall consist of the construction of aggregate fill and filter fabric for the construction of the stabilized construction entrance. This work may not be required but has been included in the contract in the event it is deemed necessary by a change in Contractor operations, by the Kane-DuPage Soil & Water Conservation District, or as directed by the Engineer.

Materials: Materials for aggregate fill and bedding shall meet the requirements of Section 1004 of the Standard Specifications. The aggregate materials shall be gradations for CA-1, CA-2, CA-3, or CA-4.

The filter fabric shall be placed under the aggregate fill and shall conform to the requirements of Section 1080.03 of the Standard Specifications.

Foundation Preparation: Foundations for aggregate fill shall be stripped to remove vegetation and other unsuitable materials or shall be excavated as specified.

Except as otherwise specified, earth foundation surfaces shall be graded to remove surface irregularities, and test pits or other cavities shall be filled with compacted earth fill of approximately the same kind and density as the adjacent foundation material.

Placement and Compaction:

The aggregate fill shall be dumped and spread into position over the filter fabric in approximately horizontal layers not to exceed twelve (12) inches in thickness. It shall be placed in a manner to produce a reasonably homogeneous stable fill that contains no segregated pockets of large or small fragments or large unfilled spaces caused by bridging of the larger rock fragments.

Aggregate fill shall be compacted as described below:

Each layer of fill shall be compacted by a minimum of four (4) passes, over the entire surface, with a steel-drum vibrating roller having a minimum weight of five (5) tons and exerting a vertical vibrating force of not less than 20,000 pounds at a frequency not less than 1200 times per minute or,

Each layer of fill shall be compacted by a minimum of four (4) passes over the entire surface by a track of a crawler-type tractor weighing a minimum of twenty (20) tons.

Compaction by means of drop weights operating from a crane, hoist or similar equipment will not be permitted.

Basis of Payment: The work to construct the stabilized construction entrance will be paid for at the contract unit price Square Yard for STABILIZED CONSTRUCTION ENTRANCE, which price shall include excavation, bedding, aggregate fill, filter fabric, placing and compacting, labor, tools, equipment and incidentals required to complete the work as specified. There shall be no adjustment in contract cost if this work is not required.

**EXPLORATION TRENCH, SPECIAL**

Description: This work shall be as required in Section 213 of the Standard Specifications and shall also consist of excavating a trench of sufficient width, (minimum 48"), length and depth (as field determined) to expose existing utilities, potential utility conflicts, other utility obstructions, underdrains and/or field tiles shown on the plans or as determined by the Engineer.

The depth and width of trench shall be of adequate width to allow investigation of the item in the trench. The maximum depth shall be based on the depth of the proposed utility depth or to the point of potential utility conflict.

The exploration holes will also be completed at all locations where the proposed sewers, casing pipe, underdrains or culvert pipes cross an existing utility line where meeting clearance requirements are essential and adjustment to the existing utility may be necessary prior to starting

construction operations to meet said clearance requirements. Other exploration trenches may be excavated at the locations noted on the plans or required by the Engineer.

The depth of the inspection hole shall be as necessary to uncover the existing utilities or other obstructions and of adequate width to allow investigation of the investigated item in the hole. In no case does the inspection hole need to be deeper than the proposed invert elevation of the proposed work item being installed plus the clearance requirement.

After a determination of the condition and/or location adequacy and at the direction of the Engineer, in areas of proposed structural embankment or pavement structures, the Contractor shall backfill the trench with materials meeting the requirement of TRENCH BACKFILL in Section 208 of the Standard Specifications. All areas outside the improvements can be backfilled with the originally excavated material. All excess excavated material created by this work shall be disposed of offsite by the contractor.

Basis of Payment. This work will be paid for at the contract unit price per Foot for EXPLORATION TRENCH, SPECIAL regardless of depth for utility exploration and as specified in Section 213 for underdrain exploration, which will be payment in full for all required work as set forth above. Trench backfill will not be measured separately for payment but shall be INCLUDED in the cost of Exploration Trench, Special.

**PRECAST REINFORCED CONCRETE FLARED END SECTIONS**

Description: This work shall consist of providing new precast concrete flared end sections and grating at the location shown on the plans. Precast concrete flared end sections shall be of the size specified in the plans and meet the requirements of Section 542 and IDOT Standard 542301. The grating for concrete flared end sections shall be of the size specified in the plans and shall in accordance with Article 542.07 (b).

Basis of Payment: This work shall be paid for at the contract unit price per Each for PRECAST REINFORCED CONCRETE FLARED END SECTION of the size specified, which shall include payment in full for the flared end section, grating, bedding and all labor, grating, equipment and material necessary for the completion of the work.

**CHANGEABLE MESSAGE SIGN**

Description. The project will require that electronic changeable message signs be placed on the east and west side of the project to warn the public of the pending road construction and road closures. The message boards will need to be placed and set out for seven (7) days in advance of the anticipated first day of construction. The message signs will remain in place for the duration of the calendar month(s) specified to warn of the construction activities and closures. The contractor will coordinate with the Engineer on the exact placement of the message boards and the message that is to be displayed.

Method of Measurement. Message board(s) will be paid for per Calendar Month for each message sign utilized (two are anticipated for this project).

Basis of Payment. The signs shall be removed after the specified number of months. The contractor will coordinate with the Engineer on the exact placement of the message boards and the message that is to be displayed. The message boards will be paid for as CHANGEABLE

MESSAGE SIGN per Calendar Month for each message sign utilized. There will be no additional compensation for periodically changing the message.

**TEMPORARY INFORMATION SIGNING**

Description: Kane County requires that temporary information signing will be erected on the east and west side of the bridge to inform the public of the construction duration. The contractor will coordinate with the Engineer on the exact placement of the sign. The sign shall be in place for the entire duration of the contract or as directed by the Engineer. The temporary information sign shall be 68"x45" and have 6" black letters on an orange background and mounted a minimum of 7' above the existing ground line, or as detailed on the Detour Plan.

This work shall consist of furnishing, installing, maintaining, relocating for various states of construction, and eventually removing temporary informational signs. Included in this item may be ground mount signs, skid mount signs, truss mount signs, bridge mount signs, and overlay sign panels which cover portions of existing signs.

Materials:

Materials shall be according to the following Articles of Section 1000- Materials:

| Item | | Article/Section |
|---|---|---|
| a. | Sign Base (Notes I & 2) | 1090 |
| b. | Sign Face (Note 3) | 1091 |
| c. | Sign Legends | 1092 |
| d. | Sign Supports | 1093 |
| e. | Overlay Panels (Note 4) | 1090.02 |

Note 1. The Contractor may use 5/8 inch instead of 3/4 inch thick plywood.
Note 2. Type A sheeting can be used on the plywood base.
Note 3. All sign faces shall be Type A except all orange signs shall meet the requirements of Article 1106.01.
Note 4. The overlay panels shall be 0.08 inch thick.

General Construction Requirements:

Message and Location: The contractor will coordinate with the Engineer on the exact placement of the temporary information signing and the message that is to be displayed on the sign.

Installation: the Contractor prior to fabrication shall verify the sign sizes and legend sizes.

Signs which are placed along the roadway and/or within the construction zone shall be installed according to the requirements of Article 701.14 and Article 720.04. The signs shall be 7 ft above the near edge of the pavement and shall be a minimum of 2 ft beyond the edge of the paved shoulder. A minimum of two (2) posts shall be used.

The Contractor shall place signs one (1) Week in advance of the start of any construction on each side of the project limits that will state construction starting here, the start date of construction and the number of months the construction is anticipated to last.

The attachment of temporary signs to existing sign structures or sign panels shall be approved by the Engineer. Any damage to the existing signs due to the Contractor's operations shall be repaired or signs replaced, as determined by the Engineer, at the Contractor's expense.

Basis of Payment: The signing, which includes All hardware, posts, or skids, supports, bases for ground-mounted signs, connections, will be not be measured separately for payment but shall be INCLUDED in the unit cost Lump Sum for Traffic Control and Protection (Special).

**REMOVE EXISTING GATE**

Description: This work shall consist of the removal of the two (2) existing steel frame motorizes gates at the entrance of the former Aurora Sportsman Club at those locations shown on the plans.

The work shall include disconnecting of the electrical service at the source, the motorized gate opener, key card reader, and any conduit that interferes with the proposed improvements. The equipment shall become the property the current owner of the former Aurora Sportsman Club.

The resulting void from the removal of the post or foundation holes shall be backfilled with compacted (hand tamped as a minimum) course aggregate material (CA-6, CA-10 or CA-12). If the holes are in turf, areas at finished grade they shall be capped with four (4) inches of topsoil graded to match existing ground. Any ruts resulting from these operations shall be filled with topsoil and graded smooth. No additional compensation shall be made for the materials and for filling of foundation holes or ruts.

Basis of Payment: Payment shall be at the contract unit price per Each for REMOVE EXISTING GATE which shall include the removal of two (2) gates, measured as one, regardless of size, length, and materials of each gate, which price shall be full compensation for removal of two gates, posts, key card reader, conduit removal, motorized gate opener, foundations and hardware, backfilling holes, labor, equipment and materials required for performing the work as herein specified and detailed on the plans.

**WASHOUT BASIN**

Description: This item shall consist of constructing and maintaining a washout basin for concrete trucks and other construction vehicles. The washout basin will be as detailed on the plans.

The contractor shall provide a straw bale washout basin per the requirements shown in the detail for "Temporary Concrete Washout Facility – Straw Bale" in the erosion control plans. The straw bale washout basin is the minimum required by the Kane-DuPage Soil and Water Conservation District (KDSWCD). The contractor may request in writing to the Engineer to utilize alternate methods/designs for the washout basin. Any alternate will need to be approved by KDSWCD.

Any washout basins constructed that do not meet the requirements of the plans or applicable IDOT and/or IUM standards will not be allowed.

The Contractor will be required to illustrate the location of the washout basin utilizing the applicable erosion control sheet from the plan set and submit the location to Kane-DuPage Soil and Water Conservation District for approval.

Basis of Payment: This work shall be paid for at the contract unit price per Lump Sum for WASHOUT BASIN, which prices shall include, plan submittal and coordination with KDSWCD,

general cleaning and removal of all construction debris when two-thirds full or as directed by the Engineer, general maintenance or reconstruct as necessary throughout the duration of use, and all material, labor, tools, equipment, disposal of surplus material, and incidentals necessary to complete this item of work. The washout basin will be measured for payment only once for the entire project duration, regardless of the number of stages or actual basin utilized for the project.

If an alternate design for the washout basin has been submitted and approved for use in the project there shall be no additional compensation to the original unit bid price for Washout Basin.

**TOPSOIL PLACEMENT**

Description: This work will consist of constructing a final topsoil wedge adjacent to the hot-mix asphalt shoulder after it has had the final 2" HMA surface course placed in Stage 3 at the locations shown on the plans. The topsoil material shall be constructed according to Section 211 of the Standard Specifications.

Construction Methods: The area of topsoil placement shall be scarified to the satisfaction of the Engineer prior to placing the final lift of topsoil.

Method of Measurement: Topsoil wedge shall be measured for payment in cubic yards.

Basis of Payment: This work to place the topsoil wedge will be paid for at the contract unit price per Cubic Yard for TOPSOIL PLACEMENT, which price shall be full compensation for all labor, equipment and materials, and compaction required for performing the work as herein specified and detailed on the plans.

**TEMPORARY PAVEMENT**

Description. This work shall consist of constructing a temporary pavement and granular subgrade to serve as temporary pavement widening during Stage 1A and temporary pavement removal during Stage 2 at the locations shown on the plans or as directed by the Engineer.

The contractor shall use either Portland cement concrete according to Sections 353 and 354 of the Standard Specifications or HMA according to Sections 355, 356, 406 of the Standard Specifications, and other applicable HMA special provisions as contained herein. The HMA mixtures to be used shall be 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 HMA are shown in the plans.

Maximum lift thickness shall be 3".

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

The removal of the Temporary Pavement, if required, shall conform to Section 440 of the Standard Specification.

Method of Measurement. Temporary pavement 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 TEMPORARY PAVEMENT.

Removal of temporary pavement and the subbase granular material (if necessary) will be paid for at the contract unit price per Square Yard for TEMPORARY PAVEMENT REMOVAL.

The Subbase Granular Material will be measured separately for payment and shall be paid at the contract unit per Square Yard for SUBBASE GRANULAR MATERIAL, TYPE B 4". Removal of the subbase material will not be measured separately for payment but shall be INCLUDED in the cost of the Temporary Pavement Removal.

**STORM SEWER REMOVAL**

Description: This item shall be completed in accordance with the applicable portions of Section 551. This work shall consist of removing the storm sewer in its entirety. Location for storm sewer removal are shown on the plans.

All trenches and/or holes remaining from the removal of the storm sewer shall be filled and compacted with coarse aggregate, gradation CA-6, to the bottom of the base course when under pavements and to within 12 inches of finished grade when in turf areas.

Method of Measurement: Removing storm sewer pipe will be measured for payment as individual items and the unit of measurement will be foot.

Basis of Payment: This work will be paid for at the contract unit price per Foot for STORM SEWER REMOVAL, regardless of material type and diameter, which price shall be full compensation for all removal and disposal of pipe, backfilling and compacting the holes and/or trench, labor, equipment and materials required for performing the work as herein specified.

When the pipe trench is under existing or proposed pavement areas, it will be measured separately for payment per Cubic Yard for Trench Backfill.

**REMOVE AND RELOCATE STEEL PLATE BEAM GUARDRAIL AND TERMINAL**

Description. This work shall consist removing and resetting the existing post, guardrail and traffic barrier terminal along the northwesterly side of the bridge approach shown on the plans to a height of thirty-one (31) inches above the finished grade of the temporary pavement to be used in Stage 1B. The Contractor shall stage this operation so that no unfinished section of guardrail is exposed to traffic at the end of the work day.

The work shall include salvaging and resetting the guardrail markers.

The guardrail end treatments consist of a rounded W-Beam end section (Terminal Type 1) and will need to be removed and relocated at the location shown in the MOT Plans. The Contractor shall set the end treatment to match the adjoining rail.

Basis of Payment. Removing and resetting the post and guardrail will be paid for at the contract unit price per Foot for REMOVE AND REPLACE STEEL PLATE BEAM GUARDRAIL, SPECIAL, which price shall include labor, tools, equipment and incidentals required to complete the work as specified.

The removing and relocation of the guardrail end treatments work will be paid for at the contract unit price per Each for RELOCATE TRAFFIC BARRIER TERMINAL, (TEMPORARY), which price

shall include removing, salvaging and re-installing the end treatment, post and hardware, all labor, tools, equipment and incidentals required to complete the work as specified.

**HOT-MIX ASPHALT CURB REPAIR**

Description. This work shall consist of constructing a temporary hot-mix asphalt curb and gutter to replace the section of existing concrete curb removed as part of the storm sewer work completed in Stage 1A at the locations shown on the plans and as directed by the Engineer.

Construction Methods.
The temporary curb shall be constructed out of the same materials used for the HMA patches.

The shape of the curb and gutter shall be the same shape and dimensions of the curb removed.

The hot-mix asphalt curb and gutter shall be hand compacted to the satisfaction of the Engineer.

Temporary Pavement, if required, shall conform to Section 440 of the Standard Specification.

Method of Measurement. Temporary hot-mix asphalt curb and gutter will be measured in Feet along the face of curb.

Basis of Payment. This work will be paid for at the contract unit price per Foot for HOT-MIX ASPHALT CURB REPAIR.

Removal of the existing concrete curb and gutter will be measure in Feet for COMBINATION CURB AND GUTTER REMOVAL.

The removal of the temporary curb and gutter will not be measured separately for payment but shall be included in the cost of PAVEMENT REMOVAL.

**CHAIN LINK FENCE REMOVAL**

Description: This work shall consist of the removal of the existing chain link fence (6 foot) adjacent to the property previously operated as the Aurora Sportsman Club. The location is shown on the plans.

The resulting void from the removal of the post or foundation holes shall be backfilled with compacted (hand tamped as a minimum) course aggregate material (CA-6, CA-10 or CA-12). If the holes are in turf, areas at finished grade they shall be capped with four (4) inches of topsoil graded to match existing ground. Any ruts resulting from these operations shall be filled with topsoil and graded smooth. No additional compensation shall be made for the materials and for filling of foundation holes or ruts.

Basis of Payment: Removal of the existing chain link fence will be paid for at the contract unit price per Foot for CHAIN LINK FENCE REMOVAL regardless of size and height, which price shall be full compensation for all removal of fencing, posts, foundation and hardware, backfilling holes, labor, equipment and materials required for performing the work as herein specified and detailed on the plans.

**RIGHT OF WAY AND PROPERTY CORNERS**

Description: This work shall consist of furnishing and placing property corners at the locations shown on the plans.

Construction Requirements: The right of way and property markers will consist of a 3/4 inch diameter pipe, 36" in length, will be set at the location shown on the plans. The property pin will be placed under the direction of a Registered Land Surveyor of the State of Illinois. Monument records will not be required for property pins.

Basis of Payment: The work of furnishing and installing property markers will be paid for at the contract unit price Each for RIGHT OF WAY AND PROPERTY CORNERS, which price shall include furnishing the pipe, labor, tools, equipment and incidentals required to complete the work as specified.

Supervision by a registered Land Surveyor and all collateral work necessary to establish the right of way and property corners, will not be paid for separately, but shall be considered INCLUDED in the unit price for setting the property pin as specified.

**RECESSED REFLECTIVE PAVEMENT MARKERS**

Description: This work shall include grooving, furnishing and installing all recessed pavement markers at the locations and as detailed as shown on the plans.

Materials: The materials are an approved proprietary item and shall be as follows:

A. The reflective pavement marker shall be a 3M 190 Series pavement marker reflector and the reflector holder shall be a Marker One Series R100.

Basis of Payment: This work shall be paid for at the contract unit price Each for RECESSED REFLECTIVE PAVEMENT MARKER, which price shall include the grooving, reflector, reflector holder, epoxy, installation, labor, tools, equipment and incidentals required to complete the work as specified.

**RAISED REFLECTIVE PAVEMENT MARKER REFLECTOR REMOVAL AND REPLACEMENT**

Description: This work shall consist of removing reflectors from their existing reflector holder when the reflector are in conflict with the temporary MOT striping and/or staged traffic flow shown in the plans. At the end of the staging when permanent pavement markings are placed a new permanent reflector shall be installed in the existing reflector holder. The new reflector characteristic shall match the removed reflector.

Material: The reflector shall be in accordance with the applicable portions of Section 781 and 1096 of the Standard Specification.

Basis of Payment: This work shall be paid for at the contract unit price Each for RAISED REFLECTIVE PAVEMENT MARKER, REFLECTOR REMOVAL and RAISED PAVEMENT MARKER REFLECTOR REPLACEMENT, which price shall include the all labor, tools, equipment and incidentals required to complete the work as specified.

**REMOVE EXISITNG SIGN COMPLETE**

Description: This work shall consist of the removal of the existing architectural sign for the Village Bible Church entry at the location shown on the plans.

The Contractor shall remove the sign and mounting hardware and store the existing sign in such a manner as not to cause any damage to the sign.

The resulting void from the removal of the post, foundation and footings shall be backfilled with compacted (hand tamped as a minimum) course aggregate material (CA-6, CA-10 or CA-12). If the holes are in turf, areas at finished grade they shall be capped with four (4) inches of topsoil graded to match existing ground. Any ruts resulting from these operations shall be filled with topsoil and graded smooth. No additional compensation shall be made for the materials and for filling of foundation holes or ruts.

Prior to removing the sign the Contractor shall locate the electric service disconnect to the sign and GFI outlets and temporary disconnect the service. The service shall be disconnected in such a manner that the service cannot be accidently "energized" while the sign is out of commission.

Basis of Payment: Removal of the existing church sign will be paid for at the contract unit price per Lump Sum for REMOVE EXISTING SIGN COMPLETE regardless of size, height, and materials which price shall be full compensation for all removal and storing of illuminated sign, removal and disposal of the stone columns, concrete foundation and footings, sign mounting pipes, brackets and hardware, electric hookups, backfilling holes, labor, equipment and materials required for performing the work as herein specified and detailed on the plans.

**ENTRY SIGNAGE**

Description: This work shall include the furnishing of all materials and the labor necessary to re-erect the Village Bible Church entry sign at the location and as detailed on the plans and as specified herein. This pay item includes re-installing the previously removed illuminated sign on new sign support posts, electrical hookup and other related items necessary to complete an operational sign.

Materials: Materials shall be according to the following:

- The church sign removed shall be re-erected to the new location. The sign was originally manufactured and installed by the Aurora Sign Company.
- The sign posts shall be Schedule 40 pipe and conform to ASTM A53 Grade B.
- The church sign concrete pad and footings shall be Class SI and shall conform to Section 1020 of the Standard Specifications.
- The concrete footing shall be cast-in-place on a base of compacted CA-6 aggregate material.
- The reinforcement bars shall be epoxy coated in accordance with Section 508 of the Standard Specifications.

Steel Post.

The sign posts shall meet the applicable construction requirements of Articles 509.03, 509.04 and 509.05 of the Standard Specifications and all posts shall be painted using one (1) coat of zinc-rich primer.

Stone Columns.
The Contractor shall match the existing stone style, material and color. Mortar shall be as required by the local building codes for masonry work.

Electric Service.
The Contractor's Electrical Subcontractor shall locate the power cable and verify the power source and circuit breaker for the sign lighting. The Electric Subcontractor shall coordinate the installation of any conduits or raceways required to be placed in the concrete sign foundation. The Contractor shall pull back existing conductors, cut existing conduit to extend conduit to feed the new sign re-installation. Re-terminate existing conductors.

Basis of Payment: This work will be paid for at the contract unit price per Each for ENTRY SIGNAGE, which price shall include re-installing the existing sign and hardware, metal post, decorative stone columns, concrete foundation, footing, aggregate base, reinforcement, electrical service and outlets, and full compensation for all labor, equipment for performing the work as herein specified and detailed on the plans.

The landscape segmental block wall and landscape plantings are not part of this work and will be measured separately for payment.

**DIVERSION STRUCTURE**

Description: This work shall consist of furnishing all labor, tools, equipment, and materials to install, maintain, operate and remove all necessary diversions and dewatering systems to divert, remove water from the channel or designed to control sediment discharge in dewatering applications where water is being pumped for the construction of the proposed bridge, removal of the existing abutments, wings, pier and footings, stone rip rap channel lining and other work associated with the construction of the proposed bridge structure to ensure that work can be completed in the dry or in manageable conditions as approved by the Engineer.

For the purposes of this item diversion structure will mean a "diversion system" for isolation of the in-stream work area using a diversion system constructed of non-erodible materials such as steel sheets, aqua barriers, rip rap and geotextile liner or other material approved by the Engineer. Earthen cofferdams will not be permitted.

This item will also include constructing a dewatering filtering system consisting of filtration or sediment bags for collecting sediment from pumping operations within the coffered area and sump pits. Construction waters will include, but not be limited to, all waters generated from the removal of the bridge pier, channel grading, riprap placement, proposed drainage systems and aggregate base construction.

Prior to performing any in-stream work associated with the project, the Contractor shall identify the proposed dewatering and/or diversion/isolation method to be used and obtain approval from Kane DuPage Soil and Water Conservation District (KDSWCD) and Engineer prior to starting work. In-stream work shall take place only during low flow conditions unless otherwise allowed by the Kane DuPage Soil and Water Conservation District and Engineer. Concentrated flow shall be isolated from the work area. Dewatering shall comply with all requirements contained in the Storm Water Pollution Prevention Plan (SWPPP) contained in the plans.

The Contractor is ultimately responsible for the choice of the materials, product(s) and equipment; for the subsequent removal of the diversion structure(s) and dewatering systems and their safety and for conformity with local codes, regulations, and these Specifications, as well as "means and methods" for the Site Dewatering and Diversion Work to be performed. The Contractor's "means and methods" are subject to the review of the County and Kane-DuPage Soil and Water Conservation District. All products and "means and methods" selected shall be adequate for the intended use/application within the construction limits represented on the plans. The Kane-DuPage Soil and Water Conservation District's and Engineer's review does not relieve the Contractor from compliance with the requirements of the Drawings, Standard Specifications, and the requirements of this special provision.

Submittal:
The Contractor shall submit for review to the Engineer for coordination with the Kane-DuPage Soil and Water Conservation District a description of the diversion system, dewatering techniques and equipment to be used, together with detailed drawings showing items such as, but not limited, to the location of the diversion structures by stage, type of pumps, pump size, lengths and sizes of discharge piping and points(s) of discharge including erosion control procedures. The approved site dewatering and diversion plan(s) shall become part of the SWPPP prior to implementation. Changes to the site dewatering and/or diversion plan(s) will need to be approved by the Engineer and the Kane DuPage Soil and Water Conservation District. The Agency review of dewatering techniques and equipment shall in no way be construed as creating any obligation on the part of County for same.

Dewatering and Filter Bag Material:
The material for the filtration bag shall meet the requirements of the material specification in Table 2, below for Class I with a minimum tensile strength of 180 lbs. The filtration bag shall be sized per manufacturer recommendations and based on the size of the pump. The pump shall be sized to be used with the filtration bag.

**TABLE 2. REQUIREMENTS FOR NONWOVEN GEOTEXTILES**

| Property | Test method | Class I | Class II | Class III | Class IV 3/ |
|---|---|---|---|---|---|
| Tensile strength (lb) 1/ | ASTM D 4632 grab test | 180 minimum | 120 minimum | 90 minimum | 115 minimum |
| Elongation at failure (%) 1/ | ASTM D 4632 | ≥ 50 | ≥ 50 | ≥ 50 | ≥ 50 |
| Puncture (pounds) | ASTM D 4833 | 80 minimum | 60 minimum | 40 minimum | 40 minimum |
| Ultraviolet light (% residual tensile strength) | ASTM D 4355 150-hr exposure | 70 minimum | 70 minimum | 70 minimum | 70 minimum |
| Apparent opening size (AOS) | ASTM D 4751 | As specified max. #40 2/ | As specified max. #40 2/ | As specified max. #40 2/ | As specified max. #40 2/ |
| Permittivity $sec^{-1}$ | ASTM D 4491 | 0.70 minimum | 0.70 minimum | 0.70 minimum | 0.10 minimum |

1/ Minimum average roll value (weakest principal direction).

2/ U.S. standard sieve size.
3/ Heat-bonded or resin-bonded geotextile may be used for classes III and IV. They are particularly well suited to class IV. Needle-punched geotextiles are required for all other classes.

Operation and Maintenance: The frequency of inspections shall depend on the dewatering method, amount of discharge, potential damage, and quality of the receiving bodies of water. The frequency of inspections and specific tasks shall be identified.

1. The filtration bag must be placed on level ground with secondary containment provided to prevent sediment from accumulating on the bare ground and to protect the surrounding area in case the bag bursts or is no longer effective.
2. The Contractor shall provide certification or documentation that the bag meets the specification for materials and is suitable for the pump that it will be used with.
3. Inspections shall be conducted to ensure proper operation and compliance with any permits or water quality standards.
4. Accumulated sediment shall be removed from the flow area and temporary diversions shall be repaired, as required.
5. Outlet areas shall be checked and repairs shall be made in a timely manner, as needed.
6. Pump outlets shall be inspected for erosion and sumps shall be inspected for accumulated sediment. Sediment shall be removed as required.
7. Dewatering bags shall be removed and replaced when half full of sediment or when the pump discharge has reduced to an impractical rate.
8. If the receiving area is showing any signs of cloudy water, erosion, or sediment accumulation, discharges shall be stopped immediately once safety and property damage concerns have been addressed.
9. Sediment shall be disposed in accordance with all applicable laws and regulations.

The Contractor shall select the pumps he/she desires to use and the rate at which the pumps discharge, but adequate protection at the pump discharge shall be provided by the Contractor and will be subject to review by the Engineer and the Kane-DuPage Soil and Water Conservation District. The Contractor shall ensure that downstream water quality and further erosion will not be impaired.

Water pumped or drained from the work required for this Contract shall be disposed of in a safe and suitable manner without damage to adjacent property, streets or to other work under construction. Water shall not be discharged onto roadways without adequate protection of the surface at the point of discharge. Water shall not be discharged into sanitary sewers. Water containing settleable solids shall not be discharged without treatment to meet the requirements of the USACE 404 Permit and the KDSWCD requirements. Any and all damages caused by dewatering and/or diversion operations will be promptly repaired by the Contractor. Conditions and deficiency deductions as specified in Article 105.03(a) of the Standard Specifications shall apply. The Contractor is responsible for providing any and all labor, materials and equipment for the dewatering and/or diversion of waters in order to meet the scheduled completion of the project.

Removal of Diversion and Dewatering Facilities - The temporary diversion structure(s) and dewatering filtering system shall be removed after it has served its purpose and as directed by the Engineer. The dewatering areas shall be graded, stabilized and permanently restored with appropriate erosion control practices and as shown on the plans. The dewatering sites after removal shall not create any obstruction of the flow of water or any other interference with the operation of or access to the permanent works.

Method of Measurement. The diversion system will be measured only once per each for the duration of the construction as Diversion Structure, regardless of the type and quantity of materials required to construct the diversion system regardless of the number of times the diversion system may need to be relocated for staging. The payment under this item is for the duration of the contract, regardless of conditions encountered.

Method of Measurement. The diversion system will be measured only once for the entire project, regardless of the number of stages of construction, as Diversion Structure, regardless of the type and quantity of materials required to construct the diversion system for each stage and regardless of the number of times the diversion system may need to be relocated for each stage. The payment under this item is for the duration of the contract, regardless of conditions encountered.

Basis of Payment. This work required for construction of diversion and dewatering systems necessary to construct the proposed bridge and related site work as shown in the plans shall be paid for only once per Each for the entire project as DIVERSION STRUCTURE, which work shall include diversion system(s) (ie: cofferdams, barrier wall, etc), filter fabric, piping, pumping, foundation preparation, framing and supports, dewatering filtering system consisting of filtration or sediment bags, installation, maintenance, removal of systems and all labor, material, and equipment required to perform the work described herein and as specified on the plans.

**LANDSCAPE PLANTING COMPLETE**

Description: The work shall consist of constructing all the compost planting bed, plantings and shredded bark mulch around the newly installed Village Bible Church entrance sign as detailed on the plans.

Materials: The work shall be in accordance with the following sections:

| ITEM | SECTION |
|---|---|
| Compost | 1081.05 (b) |
| Shredded Bark Mulch | 1081.06, 4(b) |
| Perianal Plants | 254 |

Basis of Payment. This work to place the compost mixture, plant the perianal flowers and place the shredded bark mulch as shown on the plans shall be paid at the contract unit price per Lump Sum for LANDSCAPE PLANTING COMPLETE, which price shall include compost, perianal plantings, mulch, watering, and all labor, material, and equipment required to perform the work described herein and as specified on the plans

The segmental block landscape wall will be measured separately for payment per square yard as SEGMENTAL CONCRETE BLOCK WALL.

**PIPE UNDERDRAIN 6" SPECIAL**

Description: Underdrains shall be placed in an aggregate capsule at the center of all drainage ditches with slopes less than 1%. The pipe underdrain shall be in accordance with Section 601 of the Standard Specification. The underdrain locations and construction details are included in the plans.

Materials: The underdrain pipe shall be six (6) Perforated Corrugated Polyethylene Tubing encased in a fabric "sock". The fabric sock encasing for the perforated corrugated pipe underdrain may be either a knitted, woven, or non-woven fabric. The fabric sock shall be factory applied to the pipe underdrain.

The fabric "sock" and envelope shall meet the requirements of Section 1080.01 of the Standard Specifications.

The aggregate capsule shall be in accordance with the applicable portions of Section 209 shall meet IDOT gradation CA-16.

A two (2") layer of straw mat shall be placed the width of trench between the top of the granular backfill and below the finished layer of topsoil. The straw shall consist of stalks of wheat in accordance with applicable portions of Section 1081.

Handling and Storage: Knitted fabric sock shall be applied to the 6-inch Pipe Underdrain in the shop to maintain a uniform applied weight. Woven and non-woven fabric or tubing with knitted fabric sock shall be delivered to the job site in such manner as to facilitate handling and incorporation into the work without damage. Fabric sock materials shall be stored in UV-resistant bags until just prior to installation. In no case shall the fabric be stored or exposed to direct sunlight that might significantly diminish its strength or toughness. Torn or punctured fabric socks shall not be used.

Basis of Payment

This underdrain shall be paid for at the contract unit price per lineal foot of PIPE UNDERDRAINS 6" (SPECIAL). This price shall include the underdrain, fabric sock, aggregate backfill, straw matting, connections and fittings as specified and all other materials, labor, tools, equipment and incidentals necessary to complete this item of work.

Aggregate backfill around the underdrain will not be measured separately for payment but shall be INCLUDED in the contract unit price for per PIPE UNDERDRAINS 6" (SPECIAL).

**WATER MAIN AND APPURTENANCES**

All water main and related work and material shall be completed in accordance with Village of Sugar Grove specifications, the "Standard Specifications for Water and Sewer Main Construction in Illinois", latest edition, the American Water Works Association (AWWA), and these plans and details, special provisions and in accordance with codes and ordinances of the Village of Sugar Grove, Illinois. In case of conflict, the more stringent of the requirements shall apply.

Sequence of Water Main Construction

A suggested water main installation sequence of operations has been included in the plans. The water main installation sequence of construction is a suggested sequence of operations and does not, nor is it intended, to depict all the work required by the contractor to construct the new water main and appurtenances as shown in the plans. The sequence of operation is given as an aide and guide for the contractor's use to establish necessary guidelines required by the Village of Sugar Grove for shutting down of existing water mains. The contractor may wish to make revisions or modifications to the sequence of operation and/or construction methods.

The Contractor will be required to coordinate with the Engineer and the Village of Sugar Grove to establish the final Sequence of Construction for the installation of the proposed water main. The coordination shall start early in the project as these water mains are critical mains to the Village of Sugar Grove water supply and there are certain times of the year these mains cannot be out of service.

Acceptance

Before acceptance by the Village all work shall be reviewed in the field and approved by the Village or its representatives.

Water Main

A. Cover and Alignment

All water mains shall have a minimum depth of cover of 5.5' from the finish grade to the top of pipe or as noted on plans.

All vertical water main adjustments shall be accomplished by deflection, not bends in the water main.

Long radius curves, either horizontal or vertical, may be laid with standard pipe by deflections at the joints. Maximum deflections at pipe joints and laying radius for the various pipe lengths shall be in accordance with ANSI/AWWA C600. When rubber gasketed pipe is laid on a curve, the pipe shall be jointed in a straight alignment and then deflected to the curved alignment. Trenches shall be made wider on curves for this purpose.

B. Materials

All water main shall be Ductile Iron Pipe Class 52 with either mechanical or push-on joints and shall conform to ANSI A21.51, AWWA C151 and ANSI A21.11, AWWA C111. (Griffin, Clow, American Cast Iron Pipe Co., U.S. Pipe & Foundry). Pipe shall be manufactured in the United States.

All pipe shall be cement lined in accordance with ANSI/AWWA C104/421.4.

C. Measurement and Payment

The installation of the proposed water main shall be paid for at the contract unit price per Foot for WATER MAIN, of the size and material specified. Measurement shall be the actual installed length measured horizontally along the centerline of the pipe.

Fittings

A. Materials

All fittings shall be Compact Ductile Iron and shall conform to ANSI/AWWA C153/421.53-84. Fittings shall be U.L. Listed Class 350 (Tyler, Griffin Clow). Fittings shall be manufactured in the United States.

All fittings shall be cement lined in accordance with ANSI/AWWA C104/421.4. All fittings shall be mechanical joint and installed with retainer glands unless otherwise shown on the drawings.

B. Measurement and Payment

Ductile iron fittings will not be measured separately for payment but shall be INCLUDED in the cost of the water main of the size specified.

Sleeves

A. Materials

Sleeves shall be Rockwell D.I. Coupling Type 441. Sleeves shall be provided at the locations shown on the plans or as directed by the Engineer.

B. Measurement and Payment

Sleeves will not be measured separately for payment but shall be INCLUDED in the cost of the water main of the size specified.

Pipe Restraint

A. Description

All tees, bends, valves, and fire hydrants shall be adequately supported with a concrete base, and supported laterally with precast concrete thrust blocking (not poured-in-place) against undisturbed earth as detailed in the plans. The thrust block will be a minimum of twelve inches (12”).

All mechanical joint fittings, valves and hydrants shall be restrained with retainer glands. Retainer glands shall be UNI-FLANGE SERIES 1400 Wedge Action Retainer gland.

The minimum restrained lengths back from the side of the fitting are shown in the Water Main Restraint Table in the plans.

B. Measurement and Payment

Retainer glands will not be measured separately for payment but shall be INCLUDED in the cost of the water main of the size specified.

Valves

A. Description

The following valves shall be used for this project:

**Main Line Valves**

| **Diameter (inches)** | **Valve Type** |
|---|---|
| 4” thru 12" | Resilient Wedge Gate Valves |

B. Materials

Gate Valves: All gate valves shall have a non-rising stem, shall have a standard operating nut and shall open in a counter-clockwise direction. Gate valves shall be American Flow Control Series 2500 Ductile Iron Resilient Wedge Gate Valves in accordance with AWWA C-515 Standard. All gate valves shall be installed in valve vaults.

All main line valves ten inch (10") and larger require a minimum sixty inch (60") diameter vault. Eight inch (8") valves and less require a forty-eight inch (48") diameter vault. A valve box will be used for valves less than six inches (6") and less unless otherwise specified in the plans.

Gate valves shall be installed in each fire hydrant lead. CA-7 crushed compacted limestone shall be utilized to backfill all around the outside of the valve boxes and below the valve to prevent mud from penetrating valve box.

C. Measurement and Payment

Payment for gate valves shall be made at the contract unit price per Each for WATER VALVES, of the size specified. Payment shall be full compensation for the valve, hardware, all materials, labor, equipment, and other appurtenant items to complete this item as specified.

Gate valves used in conjunction with the fire hydrant assembly will not be measured separately for payment but shall be included in the cost of “FIRE HYDRANT ASSEMBLY COMPLETE”.

Valve vaults shall be measured separately for payment.

Valve Boxes

A. Description

All main line valves six inches (6”) and less, including six inch (6”) valves used for fire hydrants leads, shall be provided with an adjustable valve box unless a valve vault is specified in the plans.

All valve boxes shall be heavy wall high density polyethylene American Flow Control Trench Adapters. Lids to be marked "Water" (valve box extensions if required are considered included). Open graded (CA-7) limestone shall be utilized to backfill around the operating nut on all valve boxes to prevent mud from penetrating the valve boxes.

B. Measurement and Payment

The cost of the valve boxes will not be paid for separately but shall be considered INCLUDED in the cost of the “FIRE HYDRANT ASSEMBLY COMPLETE”.

Valve Vaults

A. Description

Valve vaults are required for all valves greater than six inches (6”). All vaults shall be precast concrete manhole section in accordance with ASTM C-478. Valve vault frames shall be IDOT Type 1 (Standard 604001) and all lids shall have “Sugar Grove” and “Water” cast into them. Manhole steps are required.

All necessary adjustments shall be made with precast concrete adjusting rings not to exceed a maximum of eight (8) inches overall in height. Adjusting rings shall be securely sealed to the cone or top barrel section of the structure using resilient, flexible, non-hardening, preformed butyl mastic. No more than one two (2) inch ring and no more than two rings in total shall be used for adjustments.

B. Measurement and Payment

Valve vaults shall be paid for at the contract unit price Each for VALVE VAULTS, TYPE A, TYPE 1 FRAME, CLOSED LID of the diameter specified, of which price shall include all materials including the frame and lid, final adjustment, labor and equipment and other appurtenant items to complete this item as specified. The cost of the frame and lid and final adjustment will not be paid for separately but shall be considered INCLUDED in the cost of the valve vault.

Granular backfill compacted around the valve vault will not be paid for separately but shall be considered INCLUDED in the cost of the valve vault and installation.

Fire Hydrants

A. Description

Hydrant installation shall have minimum of five feet - six inches (5'-6") depth of cover and shall be as detailed in the plans.

All hydrants shall be in accordance with Section Four (4) of AWWA C502-54 standard and shall be an American Flow Control/Waterous Pacer Model No. WB-67-250 (break away style traffic design) with one 4 ½” steamer nozzle and two 2 ½” hose outlets, of which the threads conform to the standards of the Village of Sugar Grove, Illinois.

All hydrants shall include a six (6) inch auxiliary valve and valve box as described under Valves and Valve Boxes in these specifications.

Base elbow of hydrant shall be properly thrust blocked and shall be provided with clean coarse aggregate wrapped in drainage fabric.

Fire hydrants shall be placed at the location shown on the plans. Center line of pumper nozzle shall be eighteen inches (18") to twenty inches (20") above finish grade line.

All hydrants and any required adjustment fittings shall be factory painted in the color “red” (potable water).

If fire hydrant extensions are required they shall be made by the same manufacturer as the fire hydrant.

B. Measurement and Payment

This work will be paid for at the contract unit price per Each for “FIRE HYDRANT ASSEMBLY COMPLETE which shall include payment in full for all labor, equipment, excavation, fire hydrant, gate valve, valve box, fire hydrant and valve box extensions (if required) as necessary to raise the fire hydrant and valve box to finish grade, granular backfill, factory painting and all material necessary for a complete installation as detailed on the plans.

Water Service

A. Description

This item will include the installation of a new copper service for the former Sportsman Club.

B. Materials

All water services shall be two (2”) inch diameter type "K" copper pipe with compression connections. No joints will be allowed between the corporation stop and the curb stop. Material and installation will be in general accordance with AWWA C800.

Curb stops shall conform to ANSI/AWWA C800 and shall be Mueller 300 Ball Curb Valves with Mueller 110 Connection and shall be the following model:

Mueller B-25155

Corporation Stop shall conform to ANSI/AWWA C800 and shall be Mueller 300 Ball Corporation Valves and shall be the following model:

Mueller B-25008

Curb boxes shall extension type with Minneapolis pattern base and minimum 1-1/2" upper section and have a 5'6" bury. The curb box shall be model:

Mueller H-10302-99007

C. Construction Methods

The existing water service shall remain in service at all times.

The contractor shall field locate the existing water main and service line to the property prior to starting any work. The location of the proposed valve and water service may require field adjustment based on the actual location of the existing facilities.

The copper tubing shall be directional drilled or other approved boring methods appropriate for copper piping to cross under pavement.

All taps shall have a minimum of three (3) feet separation.

Services shall be equipped with corporation stop, curb stop, and buffalo box. No joints shall be allowed between the corporation stop and curb stop.

Curb stops shall be at a five foot six inch (5'6") depth of bury. Except as permitted below, the underground water service pipe and the building sewer (if applicable) shall be not less than ten feet (10') apart horizontally and shall be separated by undisturbed or compacted earth. The curb stop shall have a concrete block placed under it for support.

The installation of the water service shall meet the latest version of “Standard Specifications for Sewer and Water Construction in Illinois” and governing plumbing codes.

All water services shall be installed with a minimum of five foot - six inches (5'-6") of cover from finished grade to top of pipe.

The Village or their representative shall witness all service taps greater than 1” in diameter. The Contractor through the Engineer, shall contact the Village or their representative forty-eight (48) hours in advance of the tap.

D. Measurement and Payment

This work will be paid for at the contract unit price per Each for WATER SERVICE CONNECTION, 2”, which shall include directional drilling copper tubing, corporation stop, curb stop, and curb box, copper tubing, concrete blocking, trench backfill, new connections, payment in full for all labor, equipment, and other appurtenant items to complete this item as specified.

This work will also include the removal of the existing curb stop and box, all new connections to the existing service pipe and proposed water main and trench backfill if required to fill voids due to the removal of the existing equipment.

The work required to field locate the existing water main and water service will be paid for as Exploration Trench, Special.

Tap Connections

Connection to Existing Water Mains (Pressure)

A. Description

Three (3) inch taps and greater shall be made through a resilient wedge tapping valve and a tapping sleeve. All pressure connections shall be in concrete vault.

B. Materials

All pressure taps to an existing Village main shall be made with an American Flow Control Series 2800 Compact Ductile Iron Mechanical Joint Tapping Sleeve and an American Flow Control Series 2500 Ductile Iron Resilient Wedge Tapping Valve (MJ x FL) and shall be constructed in a five (5') foot minimum diameter valve vault.

All taps shall be performed by the Contractor after payment of applicable connection fees and shall be witnessed by the Village of Sugar Grove. The Engineer and Village or their representative, should be notified 48 hours in advance of any tap.

C. Measurement and Payment

Payment for the pressure connection shall be made at the contract unit price per Each for PRESSURE CONNECTION of the size specified. Payment shall be full compensation for tapping valve, sleeve, retainer glands or thrust blocking, tapping fees, all materials, labor, equipment, and other appurtenant items to complete this item as specified.

The Valve Vault is not included in this item and will be measured separately for payment.

Connection to Existing Water mains (Non-Pressure)

A. Description

Under this item, the Contractor shall connect the proposed water main to the existing water main at locations shown on the plans, as specified herein and described in Section 41 of the Standard Specifications for Water and Sewer Main Construction on Illinois. This item of work shall include cutting the existing water main, installation of fittings as required and restoring the existing water main to service. The Village of Sugar Grove personnel will close existing valves to isolate the connection point to the existing water main. Seventy-two (72) hour notice to the Engineer and Village is required. Prior coordination is also required with the Engineer and Village of Sugar Grove or their representative to establish a final sequence of construction before starting any water main work.

Adequate precautions shall be taken to prevent contaminants from entering the existing main. The inside surfaces of all new materials used in the adjustment shall

be cleaned of all foreign material and swabbed with a solution of acceptable bactericide before assembly. The proposed section shall then be flushed utilizing available fire hydrants or supplied flushing corps.

All materials, labor, and equipment necessary to connect proposed water main shall be on hand before shutdown and cutting of the existing main. Each location of proposed water main that requires non-pressure connections will need to be connected within a **four (4) hour** time frame unless otherwise approved by the Engineer. The Contractor shall take every precaution to make sure this work is done within these four hours. These connections can only be done Monday through Friday between the hours of 9:00 a.m. to 2:30 p.m.

B. Materials

All materials required completing the non-pressure connection, including the fittings, retaining glands, and granular backfill shall be as described in the previous sections.

C. Trial Shutdown

The contractor shall coordinate with the Engineer and the Village of Sugar Grove or their representative to perform a "trial shut-down" of the existing water main to make sure that all valves can be found and are fully operational prior to proceeding with the non-pressure connection installation.

D. Measurement and Payment

Measurement shall be made once per each connection at each location.

Payment for the work associated with connecting to existing water main shall be at the contract unit price Each for CONNECTION TO EXISTING WATER MAIN, of the pipe size specified, which price shall include excavation, fittings, retainer glands, friction clamps, tie rods, concrete thrust blocks, select granular backfill, disposal of surplus materials and all other items necessary to complete the work as described.

Select Granular Backfill

A. Description

All trenches caused by the construction of water main, water service pipes, and the excavation around valve vaults, fire hydrants, and other appurtenances which occur within the limits of existing or proposed pavements, sidewalks and curb and gutters, or where the edge of the trench shall be within two (2) feet of said improvements shall be backfilled with compacted granular backfill as detailed in the plans.

B. Materials

Select granular backfill shall consist of CA-6 crushed limestone, CA-6 crushed gravel, or open graded material (CA-7) and shall be mechanically compacted in place to ninety-five percent (95%) of maximum density at optimum moisture as determined by the Modified Standard Proctor Test (ASTM 1557/AASHTO T180).

C. Measurement and Payment

Select granular backfill shall be measured on a cubic yard basis. The quantity shall be computed based on the maximum trench width for payment listed in pay width table for the Water Main Trench Detail (plans) and the length and depth for which the select granular backfill is required along the water main pipe.

Bedding, haunching and initial backfill to twelve (12) inches above the top of pipe is required the entire length of pipe. Bedding, haunching and initial backfill will not be measured separately for payment but shall be INCLUDED in the cost of Water Main of the size specified.

In areas where the water mains are located under or within two (2) feet of existing or proposed pavements, the select granular backfill shall be placed from the top of the initial backfill to the bottom of the proposed base course. The volume of the final backfill will be computed by multiplying the length of the trench backfill time the average depth of the trench material times the specified maximum trench width for payment.

Max. Trench Width* x Avg. Depth x Length

Payment for the trench backfill shall be the backfill measured from the top of the initial backfill to the bottom of the proposed base course (final backfill) and shall be made at the contract unit price bid per Cubic Yard for SELECT GRANULAR BACKFILL, SPECIAL. Payment shall be full compensation for all materials, labor, equipment, compaction, and incidentals to place and compact the material as shown on the plans and as specified.

Select granular backfill required around vaults, valve boxes, fire hydrants, service connections, and other appurtenances will not be measured for payment but shall be considered INCLUDED in the unit price bid for the appurtenance specified.

Hydrostatic Testing

A. Description

All water mains shall be pressure tested by the Contractor in conformance with the requirements of Section 41-2.13 of the “Standard Specifications for Water and Sewer Main Construction in Illinois” and applicable provisions of AWWA C-600 and C-603 under the supervision of the Engineer.

Hydrostatic pressure for the test will be 150 psi.

Allowable leakage shall be as set forth in AWWA C-600 latest edition. The maximum allowable leakage shall be based off of the first 1,000 feet of pipe (i.e. if 2,000 feet of pipe is being tested, the allowable leakage will be based on the first 1,000 feet only.) The duration of the test shall be for two (2) hours minimum, and the maximum pressure drop during this two hour period is a cumulative 2 psi. To meet the testing requirements, the water main shall satisfy the pressure drop and the allowable leakage requirements. The gauge will be zeroed out before the pressure test begins.

In addition, the pressure gauge used in the hydrostatic test shall be in 2 psi increments or less and have a minimum of a 3½" diameter face.

All water main shall be pre-pressure tested prior to the actual pressure test and the test shall be witnessed by the Village or their representative.

B. Measurement and Payment

This work shall not be paid for separately but shall be considered INCLUDED in the unit price bid for the ductile iron water main specified.

Disinfection Procedures and Chlorination

A. Description

Upon completion of the newly laid water mains, the water mains shall be disinfected in accordance with the American Water Works Association, Procedure Designation, AWWA C-651, latest edition. The Contractor is responsible for collecting samples and having bacteriological testing performed as required by the IEPA. The Contractor shall furnish to the Engineer and Village the required documentation, test results, etc., required by the IEPA for placing the water mains or service lines in service and/or securing an operating permit.

Pressure testing, preliminary flushing, and chlorinating the water main shall be conducted under the supervision of the Engineer and the Village or their representative.

The contractor shall notify the Engineer a minimum of forty-eight (48) hours in advance regarding dates of pressure testing, preliminary flushing and chlorination appointments.

Water valves and fire hydrants shall be operated by Village of Sugar Grove Personnel, only.

The Contractor is responsible for collecting samples and having bacteriological testing performed as required by the IEPA.

B. Scheduling

The Contractor shall contact the Village Engineer through the Resident Engineer to schedule operation of valves, flush and fill, pressure test, chlorination, and sampling. The Engineer will contact the Village accordingly. The Contractor shall not operate the valves. Village staff are the only ones permitted to operate the valves and fire hydrants. The Contractor shall provide forty-eight (48) hours' notice prior to performing any of these work items. This work should be coordinated through the Engineer with Engineering Enterprises (Village's Representative) at 630-466-6700. The following activities must be scheduled with the Engineer and Village or their representative on independent days:

- Flush and fill (Water main/service shall then be pre-tested.)
- Pressure Test (The gauge shall be zeroed out before the start of the test.)

- Chlorination
- 1st Day of Sampling
- 2nd Day of Sampling

C. Preliminary Flushing

Completed water mains shall be filled slowly to eliminate air pockets before pressure testing.

After satisfactory completion of pressure testing, the water main shall receive a preliminary flush.

Flushing of water mains shall be conducted under the supervision of the Engineer. The flushing shall include 100% of the newly installed water main as well as every fire hydrant installed. When possible, during the flushing operation the direction of flow through the mains shall be reversed. All main line and hydrant valves shall be opened and closed while flushing in each direction.

The flushing velocity in the main shall not be less than 2.5 feet/second. (See Table "A") NOTE: Flushing is no substitute for preventive measures during construction. Certain contaminants, such as caked deposits, resist flushing at any feasible velocity.

**TABLE "A"**

**Required Flow and Openings to Flush Pipelines (40 psi Residual Pressure in Water Main)***

| Pipe Diameter Inches | Flow Required To Produce 2.5 ft/s (approx.) Velocity in Main gpm | Size of Tap Inches | | | Number of 2-1/2 inch Hydrant Outlets* | Number of 4-1/2 inch Hydrant Outlets* |
|---|---|---|---|---|---|---|
| | | 1 | 1-1/2 | 2 | | |
| | | Number of Taps on pipe* | | | | |
| 4 | 100 | 1 | - | - | 1 | - |
| 6 | 200 | - | 1 | - | 1 | - |
| 8 | 400 | - | 2 | 1 | 1 | - |
| 10 | 600 | - | 3 | 2 | 1 | - |
| 12 | 900 | - | - | 2 | 2 | - |
| 16 | 1600 | - | - | 4 | 2 | - |

*With a 40-psi pressure in the main with the hydrant flowing to atmosphere, a 2-1/2 in. hydrant outlet will discharge approximately 1000 gpm and a 4-1/2 in. hydrant outlet will discharge approximately 2500 gpm.

*Number of taps on pipe based on discharge through 5 ft. of galvanized iron (GI) pipe with one 90-degree elbow.

The Engineer shall witness the chlorination of the water main. The Engineer shall notify the Village immediately following the chlorination.

The chlorination of the project shall not be permitted until a preliminary flush has been performed and witnessed.

Under the supervision of the Engineer, water from the existing distribution system shall be made to flow at a constant rate into the newly laid water main. At a point not more than 10 feet downstream from the beginning of the new main, water entering the new main shall receive a dose of chlorine fed at a constant rate such that the water will receive not less than 50 mg/L free chlorine. (See Table "B").

All main line and hydrant valves (except for valves at the connection between the new and existing systems) shall be operated after the main has been chlorinated in order to allow the valve disk to make contact with the chlorine solution.

**TABLE "B"**

**Chlorine Required to Produce 50 mg/L Concentration in 100 ft. of Pipe by Diameter.**

| Pipe Diameter Inches | 100 Percent Chlorine Lb. |
|---|---|
| 4 | .026 |
| 6 | .060 |
| 8 | .108 |
| 10 | .170 |
| 12 | .240 |
| 16 | .434 |

D. Bacteriological Testing

After a minimum of 24 hours after the water main has been properly chlorinated, the Contractor shall schedule an appointment for bacteriological testing with the Engineer and Village of Sugar Grove. Just prior to sampling, the main shall be flushed to reduce the chlorine concentration to no more than 3.5 mg/L. <u>All collecting of samples and bacteriological testing shall be by the Contractor.</u>

Per the Illinois Environmental Protection Agency, *"All water mains shall be satisfactorily disinfected prior to use. In accordance with the requirements of A.W.W.A. C651-99, at least one set of samples shall be collected from every 1,200 feet of new water main, plus one set from the end of the line and at least one set from each branch. Satisfactory disinfection shall be demonstrated in accordance with the requirements of 35 Ill. Adm. Code 652.203."*

Sample points shall consist of one (1) inch copper whips attached to the main. **Samples shall not be drawn from fire hydrants.**

All of the water main that is listed under the same IEPA permit must be tested as a complete project. Bacteriological testing will not start until the entire length of main being permitted by the IEPA for that particular project, has been installed and pressure tested.

After samples are drawn, the valve feeding the new water main shall be closed. Unless otherwise directed by Village of Sugar Grove personnel, the valve(s) feeding the new main shall remain closed until the water main project receives approval from the Village. The Contractor shall not operate the valves. Village staff are the only ones permitted to operate the valves and fire hydrants. This work should be coordinated through the Engineer with Engineering Enterprises (Village's Representative) at 630-466-6700.

In the case of unsatisfactory water samples, the Engineer and Village or their representative will review and advise the contractor as to what procedures will be required for further testing.

Service connections and taps will not be permitted until the new water main has satisfactorily passed the bacteriological tests.

Any questions concerning disinfection procedures should be directed to the Engineer.

E. Measurement and Payment

This work shall not be paid for separately but shall be considered INCLUDED in the unit price bid for the ductile iron water main specified. The work shall include the copper whips required for sampling.

Village Required Reports

The Contractor shall furnish to the Village the required documentation, test results, etc., required by the IEPA for placing the water mains or service lines in service and/or securing an operating permit.

This work shall not be paid for separately but shall be considered INCLUDED in the unit price bid for the ductile iron water main.

Water Main Protection

A. Description

Easements for the existing utilities, both public and private, and utilities within public rights-of-way are shown on the plans according to available records. The contractor shall be responsible for determining the exact location in the field of these utility lines and their protection from damage due to construction operations. If existing utility lines of any nature are encountered which conflict in location with new construction, the Contractor shall notify the Engineer so that the conflict may be resolved.

Water mains and water service lines shall be protected from sanitary sewers, storm sewers, combined sewers, house sewer service connections and drains in accordance with Title 35: Environmental Protection Agency Subtitle F: Public Water Supplies, Chapter II: Environmental Protection Agency, Parts 651-654 Technical Policy Statements, Section 653.119 and the details in the plans.

Whenever possible, a water main must be laid at least ten feet horizontally from any existing or proposed drain or sewer line. Should local conditions exist which would prevent a lateral separation of ten feet, a water main may be laid closer than ten feet to a storm or sanitary sewer provided that the water main invert is at least eighteen inches above the crown of the sewer, and is either in a separate trench or in the same trench on an undisturbed earth shelf located to one side of the sewer. If it is impossible to obtain proper horizontal or vertical separation as described above, then the sewer must also be constructed of water main type material (ductile iron pipe with slip-on or mechanical joints, prestressed reinforced concrete pipe with ASTM C-443 joints, etc.) and pressure tested to the maximum expected surcharge head to assure water tightness before backfilling.

Whenever water mains must cross house sewers, storm sewers or sanitary sewers, the water main shall be laid at such an elevation that the invert of the water main is eighteen inches above the crown of the drain or sewer. This vertical separation must be maintained for that portion of the water main located within ten feet horizontally of any sewer or drain crossed. This must be measured as the normal distance from the water main to the drain or sewer. If it is impossible to obtain the proper vertical separation as described above or if it is necessary for the water main to pass under a sewer or drain, then the sewer must be constructed of water main type material. This construction must extend on each side of the crossing until the normal distance from the water main to the sewer or drain line is at least ten feet. In making such crossings, center a length of water main pipe over/under the sewer to be crossed so that the joints will be equidistant from the sewer and as remote therefrom as possible. Where a water main must cross under a sewer, a vertical separation of eighteen inches between the invert of the sewer and the crown of the water main shall be maintained, along with means to support the larger sized sewer lines to prevent their settling and breaking the water main.

B. Measurement and Payment

This work shall <u>not</u> be paid for separately but shall be considered INCLUDED in the unit price bid for the ductile iron water main specified.

<u>Final Adjustments</u>

A. Description

All final adjustments of castings will be accomplished by the use of concrete adjusting rings set in Butyl rope joint sealant; mortar joints will not be allowed. Height of adjusting rings shall not exceed eight inches (8") and the minimum adjusting ring thickness shall be two inches (2"). Frames set in concrete are not permitted. Metal or plastic shims will be used for fine adjustments of frames.

All main line valve boxes, valve vaults, and buffalo boxes shall be marked at the time of construction with a 4" x 4" hardwood post neatly installed vertically with a minimum three feet (3') bury and a minimum four feet (4') exposed. The top one foot (1') of the post shall be neatly painted blue.

The water main within the project limits shall be permanently located with clearly labeled with PVC markers subject to the approval of the Engineer. The post is an all-weather, color impregnated, UV stabilized specially formulated polymer extrusion and the drive clamp is mild steel. The height shall be four feet (4') above ground, 3.25" wide. The final marker installation requirement and location shall be coordinated with the Engineer.

All valves and buffalo boxes shall be located on the as-built plans with respect to the nearest fire hydrant.

B. Measurement and Payment

This work shall not be paid for separately but shall be considered INCLUDED in the unit price bid for the ductile iron water main specified.

Dewatering Trench

A. Description

The contractor shall provide and use effective and satisfactory methods to lower the groundwater table to a safe plane below the bottom of the work. No pipe shall be laid or jointed unless the trench is completely dewatered.

Water pumped or drained from the work shall be disposed of in a manner that will not damage adjacent private property, other work construction, street pavements, or other municipal property. No water shall be discharged into sanitary sewers. No water containing settleable solids shall be discharged into storm sewers.

B. Measurement and Payment

This work shall not be paid for separately but shall be considered INCLUDED in the unit price bid for the ductile iron water main specified.

Bracing and Sheeting

A. Description

Open cut trenches will require sheeting or bracing to prevent shifting of installed water main or sewers, prevent damage to structures and adjacent property and avoid delays to the improvement. Trenches in pavements or in close proximity to improved streets or roadways shall be sheeted or braced in a substantial and effective manner. Sheeting may be removed after the backfill has been completed to such an elevation as to permit its safe removal. Sheeting and bracing left in place must be removed to a distance of 3 feet below the established roadway grade.

B. Measurement and Payment

This work shall not be paid for separately but shall be considered INCLUDED in the unit price bid for the ductile iron water main specified.

**FIRE HYDRANTS TO BE REMOVED**

Description: This work shall consist of removing and salvaging the existing fire hydrant and auxiliary valve in its entirety at the locations shown on the plans. Removal of the fire hydrant and auxiliary valve shall include the valve box.

Construction Methods: All holes remaining from the removal of the fire hydrant and auxiliary valve shall be filled and compacted with coarse aggregate, gradation CA-6, to the bottom of the base course when under pavements and to within 6 inches of finished grade when in turf areas. Because the water main pipe will be abandoned and filled with grout material, open ends of the tee/water main pipe from the valve removal shall be capped with a mechanical joint plug.

The contractor shall return the salvaged fire hydrant and auxiliary valve to the Village of Sugar Grove at a location within 10 miles designated by the Engineer as coordinated with the Village.

This work will be paid for at the contract unit price per Each for FIRE HYDRANTS TO BE REMOVED, which shall include fire hydrant, water main pipe, auxiliary valve, fittings, blocking, granular fill and compaction, for all labor, equipment, and material necessary to complete the work as specified.

**REMOVE EXISTING VALVE AND VAULT**

Description: This work shall consist of removing the existing water valve and valve vault structure in its entirety at the locations shown on the plans. Removal of the structure shall include the frames and lids or grates. The valve structure removal shall be completed in accordance with the applicable portions of Section 605.

Construction Methods: All holes remaining from the removal of the valve and valve vault shall be filled and compacted with coarse aggregate, gradation CA-6, to the bottom of the base course when under pavements and to within 6 inches of finished grade when in turf areas.

Because the water main pipe will be abandoned and filled with grout material, open ends of the water main pipe from the valve removal shall be capped with a mechanical joint plug.

All existing valves shall be removed. In-line valves shall be removed as necessary to provide access for filling the existing water main. The Contractor shall coordinate with the Engineer on whether to dispose of or return the valve, frame and lid to the Village. The vault shall be disposed off-site.

Method of Measurement: Removing of the valve and valve vault will be measured for payment as one item and the unit of measurement will be each.

Basis of Payment: This work will be paid for at the contract unit price per Each for REMOVE EXISTING VALVE AND VAULT, regardless of type and size of the valve and diameter of vault, which price shall be full compensation for removal the valve and hardware, valve vault regardless of material and diameter, regardless of depth of the pipe and structure, removal of the frames and

grates/lids, and mechanical joint plugs required for capping the remaining pipe to be filled, granular backfill and, labor, equipment and materials required for performing the work as herein specified.

**WATER MAIN TO BE ABANDONED**

Description: This work shall consist of abandoning and filling the existing water main pipe after the proposed water main and appurtenances are installed and operational.

Materials: The existing water main pipe shall be filled with Controlled Low Strength Material (CLSM) per Section 593 of the Standard Specifications or grout material meeting the requirements of Section 1024 of the Standard Specifications.

Construction Methods: All existing fire hydrants shall be removed and the remaining tee shall be plugged with a mechanical joint plug for filling the existing water main. The Contractor shall coordinate with the Engineer on whether to dispose of or return the valve to the Village.

It is anticipated that partial removals may be required for the filling operation or due to conflicts with the proposed improvements.

All open ends of the existing pipe shall be capped with a mechanical joint plug.

Basis of Payment: This item of work shall be paid for at the contract unit price per Foot for WATER MAIN TO BE ABANDONED, of the diameter pipe specified. This item of work shall include excavation, mechanical joint plugs, CLSM or grout material, filling and sealing of pipe, disposal of water main removed and other surplus materials, and appurtenant items and other incidentals as necessary to complete this item of work as specified herein. This item all work will be paid for only once for this project.

Plugs and caps and select granular backfill related to the filling of the pipe will not be paid for separately, but shall be considered INCLUDED in the cost of "WATER MAIN TO BE ABANDONED".

**DRAINAGE STRUCTURE TO BE REMOVED**

Description: This item shall be completed in accordance with the applicable portions of Section 605. This work shall consist of removing the drainage structures in its entirety. Drainage structures include, but are not limited to, manholes, catch basins, inlets, headwalls, and end sections at the locations shown on the plans. Removal of the structure shall include the frames and lids or grates.

All holes remaining from the removal of the drainage structure shall be filled and compacted with coarse aggregate, gradation CA-6, to the bottom of the base course when under pavements and to within 4 inches of finished grade when in turf areas.

Method of Measurement: Removing Drainage Structures will be measured for payment as individual items and the unit of measurement will be Each.

Basis of Payment: This work will be paid for at the contract unit price per Each for DRAINAGE STRUCTURE TO BE REMOVED, regardless of type, depth, size and material, which price shall be full compensation for all removal and disposal of structure, frames and grates/lids, grating, toe

blocks or footings, backfilling and compacting the holes, labor, equipment and materials required for performing the work as herein specified.

**GUARDRAIL MARKERS**

Description: Furnishing and installing all Guardrail Mounted Delineators. The Kane County Division of Transportation pre-approved Guardrail Mounted Delineator "AKT-567" shall be provided for all proposed Steel Plate Beam Guardrail locations shown in plan. Terminal Markers – Direct Applied shall be provided and paid for separately and shall conform to the Standard Specifications.

A. The reflective area shall be approximately nine (9) square inches of encapsulated lens reflective sheeting permanently mounted to the bracket by either pressure sensitive or heat. The sheeting shall be Hi-intensity grade reflective material and the color of the reflective sheeting to be chosen by the Engineer in the field. The delineator shall be mounted at each post location per the manufacturer's specifications and details.

B. The bracket shall be 12 gauge galvanized steel. The bracket shall be of the same size and shape as the reflective sheeting that is mounted on it. The bracket shall have slotted holes in such a manner as to fit under the collars of the existing guardrail bolts when tightened down. There shall be no open area between the guardrail and the reflector so as to prohibit vandalism. The delineator shall mount within the channel section of the guardrail and shall not protrude further than the guardrail itself. No epoxy shall be used to install the delineator to the guardrail. The delineator shall be capable of holding reflective material for either one-way or two-way application. The galvanizing shall be G-90 or better.

Colors:

Permanent Guardrail – Guardrail markers shall be reflective on one (1) side of the reflector with the traffic side being white.

Basis of Payment: This work shall be paid for at the contract unit price Each for GUARDRAIL MARKERS, TYPE A, which price shall include the reflector, installation, labor, tools, equipment and incidentals required to complete the work as specified.

**SURVEY MONUMENT**

Description: There is a Kane County Division of Transportation survey monument (marker) that will be removed as part of the construction operations. A proposed permanent survey monument (marker) shall be constructed as specified and as detailed in the plans. The marker shall be placed in undisturbed ground at or near sta. 101+45.00, 52' lt.

Monument Construction: The principal component of this monument, referred to as NGS 3-D Monument, is a 9/16-inch stainless steel rod driven into the ground, utilizing a gasoline powered reciprocating hammer, until refusal or a reduced driving rate has been achieved. The rounded top of the rod is the survey datum point. The upper 3 feet of the rod is encased in a 1-inch greased filled plastic extruded fin sleeve that is held horizontally stable by back-filled, washed sand. The effects of up and down ground movement during freeze/thaw or wet/dry conditions are removed from the anchored rod by the grease filled sleeve promoting vertical stability. A 6-inch Polyvinyl

Chloride (PVC) pipe with attached, standard, hinged access cover protects and identifies the top of the monument.

Complete procedures for setting the monument may be found I the "Bench Mark Reset Procedures" documented by Curtis L. Smith of the National Geodetic Survey, published in September 2010. (http://www.ngs.noaa.gov/PUBS_LIB/Benchmark_4_1_2011.pdf)

The monument access cover will be Model BMAC6 manufactured by Bertsen International, Inc., Madison Wisconsin.

The survey monument will be established under the supervision of a registered Professional Land Surveyor in the State of Illinois.

Survey Accuracy: The survey monument will be established with a "First Order" horizontal control accuracy and a "First Order" accuracy for the vertical control.

The horizontal and vertical datum shall be field determined after the permanent survey monument is set and the concrete cured.

Documentation: All survey notes will be provided to the Kane County Division of Transportation after the work is completed.

Existing Monument: The existing monument shall be completely obliterated.

Basis of Payment: The work to set the survey monument as detailed in the plans and specified above will be paid at the contract unit price per Each for SURVEY MONUMENTS, which price shall include access cover, PVC piping, control rod and installation, excavation, sand, concrete, survey equipment, land surveying services and documentation, removal of the existing monument, labor, tools, equipment and incidentals required to complete the work as specified.

**HOT-MIX ASPHALT DRIVEWAY PAVEMENT**

Description: This work shall consist of constructing hot-mix asphalt driveway pavement on a prepared aggregate base course in accordance with the applicable portions of Section 406 of the Standard Specifications at the locations shown on the plans.

Materials: The materials for this project shall be:

*Commercial Driveway*

| Mix | Design Thickness | Max. Lift Thickness |
|---|---|---|
| Hot Mix Asphalt Binder Course, IL-19.0, N50 | 8" | 4" |
| Hot Mix Asphalt Surface Course, Mix "D", N50 | 2" | 2" |
| Bituminous Materials – Prime and Tack Coat | | |

*Private Driveway*

| Mix | Design Thickness | Max. Lift Thickness |
|---|---|---|
| Hot Mix Asphalt Binder Course, IL-19.0, N50 | 6" | 4" |
| Hot Mix Asphalt Surface Course, Mix "D", N50 | 2" | 2" |
| Bituminous Materials – Prime and Tack Coat | | |

Basis of Payment: The hot-mix asphalt driveway pavement will be paid for at the contract unit price per Square Yard for HOT-MIX ASPHALT DRIVEWAY PAVEMENT, of the thickness specified, which shall include all labor, equipment and material necessary for the completion of the work.

Subbase granular material for base course and bituminous materials will be measured separately for payment as SUBBASE GRANULAR MATERIAL, TYPE B 4" and BITUMINOUS MATERIALS (PRIME COAT or TACK COAT), respectively.

**AGGREGATE SUBGRADE IMPROVEMENT (D-1)**
Effective: February 22, 2012
Revised: April 1, 2016

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.

**303.02 Materials.** Materials shall be according to the following.

| Item | Article/Section |
|---|---|
| (a) Coarse Aggregate | 1004.07 |
| (b) Reclaimed Asphalt Pavement (RAP) (Notes 1, 2 and 3) | 1031 |

Note 1. Crushed RAP, from either full depth or single lift removal, may be mechanically blended with aggregate gradation CS 01 but shall not exceed 40 percent by weight of the total product. The top size of the Coarse RAP shall be less than 4 in. (100 mm) and well graded.

Note 2. RAP having 100 percent passing the 1 1/2 in (37.5 mm) sieve and being well graded, may be used as capping aggregate in the top 3 in. (75 mm) when aggregate gradation CS 01 is used in lower lifts. When RAP is blended with any of the coarse aggregates, the blending shall be done with mechanically calibrated feeders. The final product shall not contain more than 40 percent by weight of RAP.

Note 3. The RAP used for aggregate subgrade improvement shall be according to the current Bureau of Materials and Physical Research Policy Memorandum, "Reclaimed Asphalt Pavement (RAP) for Aggregate Applications".

**303.03 Equipment.** The vibratory machine shall be according to Article 1101.01, or as approved by the Engineer. The calibration for the mechanical feeders shall have an accuracy of ± 2.0 percent of the actual quantity of material delivered.

**303.04 Soil Preparation.** The stability of the soil shall be according to the Department's Subgrade Stability Manual for the aggregate thickness specified.

**303.05 Placing Aggregate.** The maximum nominal lift thickness of aggregate gradation CS 01 shall be 24 in. (600 mm).

**303.06 Capping Aggregate.** The top surface of the aggregate subgrade shall consist of a minimum 3 in. (75 mm) of aggregate gradations CA 06 or CA 10. When Reclaimed Asphalt Pavement (RAP) is used, it shall be crushed and screened where 100 percent is passing the 1 1/2 in. (37.5 mm) sieve and being well graded. RAP that has been fractionated to size will not be permitted for use in capping. Capping aggregate will not be required when the aggregate subgrade improvement is used as a cubic yard pay item for undercut applications. When RAP is blended with any of the coarse aggregates, the blending shall be done with mechanically calibrated feeders.

**303.07 Compaction.** All aggregate lifts 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.

**303.08 Finishing and Maintenance of Aggregate Subgrade Improvement.** 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.

**303.09 Method of Measurement.** This work will be measured for payment according to Article 311.08.

**303.10 Basis of Payment.** This work will be paid for at the contract unit price per cubic yard (cubic meter) 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.** 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. The top 12 inches of the aggregate subgrade improvement shall be 3 inches of capping material and 9 inches of crushed gravel, crushed stone or crushed concrete. In applications where greater than 36 inches of subgrade material is required, rounded gravel, meeting the CS01 gradation, may be used beginning at a depth of 12 inches below the bottom of pavement.

(b) Quality. The coarse aggregate shall consist of sound durable particles reasonably free of deleterious materials. Non-mechanically blended RAP may be allowed up to a maximum of 5.0 percent.

(c) Gradation.

(1) The coarse aggregate gradation for total subgrade thicknesses of 12 in. (300 mm) or greater shall be CS 01.

| Grad No. | COARSE AGGREGATE SUBGRADE GRADATIONS<br>Sieve Size and Percent Passing | | | | |
|---|---|---|---|---|---|
| | 8" | 6" | 4" | 2" | #4 |
| CS 01 | 100 | 97 ± 3 | 90 ± 10 | 45 ± 25 | 20 ± 20 |

| Grad No. | COARSE AGGREGATE SUBGRADE GRADATIONS (Metric)<br>Sieve Size and Percent Passing | | | | |
|---|---|---|---|---|---|
| | 200 mm | 150 mm | 100 mm | 50 mm | 4.75 mm |
| CS 01 | 100 | 97 ± 3 | 90 ± 10 | 45 ± 25 | 20 ± 20 |

(2) The 3 in. (75 mm) capping aggregate shall be gradation CA 6 or CA 10.

**COARSE AGGREGATE FOR BACKFILL, TRENCH BACKFILL AND BEDDING (D-1)**
Effective: November 1, 2011
Revised: November 1, 2013

This work shall be according to Section 1004.05 of the Standard Specifications except for the following:

Reclaimed Asphalt Pavement (RAP) maybe blended with gravel, crushed gravel, crushed stone crushed concrete, crushed slag, chats, crushed sand stone or wet bottom boiler slag. The RAP used shall be according to the current Bureau of Materials and Physical Research Policy Memorandum, “Reclaimed Asphalt Pavement (RAP) for Aggregate Applications”. The RAP shall be uniformly graded and shall pass the 1.0 in. (25 mm) screen. When RAP is blended with any of the coarse aggregate listed above, the blending shall be done mechanically with calibrated feeders. The feeders shall have an accuracy of $\pm$ 2.0 percent of the actual quantity of material delivered. The final blended product shall not contain more than 40 percent by weight RAP.

The coarse aggregate listed above shall meet CA 6 and CA 10 gradations prior to being blended with the processed and uniformly graded RAP. Gradation deleterious count shall not exceed 10% of total RAP and 5% of other by total weight.

**EMBANKMENT I**
Effective: March 1, 2011
Revised: November 1, 2013

Description. This work shall be according to Section 205 of the Standard Specifications except for the following.

Material. All material shall be approved by the District Geotechnical Engineer. The proposed material must meet the following requirements.

a) The laboratory Standard Dry Density shall be a minimum of 90 lb/cu ft (1450 kg/cu m) when determined according to AASHTO T 99 (Method C).

b) The organic content shall be less than ten percent determined according to AASHTO T 194 (Wet Combustion).

c) Soils which demonstrate the following properties shall be restricted to the interior of the embankment and shall be covered on both the sides and top of the embankment by a minimum of 3 ft (900 mm) of soil not considered detrimental in terms of erosion potential or excess volume change.

   1) A grain size distribution with less than 35 percent passing the number 75 um (#200) sieve.

   2) A plasticity index (Pl) of less than 12.

   3) A liquid limit (LL) in excess of 50.

d) Reclaimed asphalt shall not be used within the ground water table or as a fill if ground water is present.

e) The RAP used shall be according to the current Bureau of Materials and Physical Research Policy Memorandum, “Reclaimed Asphalt Pavement (RAP) for Aggregate Applications”. Gradation deleterious count shall not exceed 10% of total RAP and 5% of other by total weight.

CONSTRUCTION REQUIREMENTS

Samples. Embankment material shall be sampled, tested, and approved before use. The contractor shall identify embankment sources, and provide equipment as the Engineer requires, for the collection of samples from those sources. Samples will be furnished to the Geotechnical Engineer a minimum of three weeks prior to use in order that laboratory tests for approval and compaction can be performed. Embankment material placement cannot begin until tests are completed and approval given.

Placing Material. In addition to Article 202.03, broken concrete, reclaimed asphalt with no expansive aggregate, or uncontaminated dirt and sand generated from construction or demolition activities shall be placed in 6 inches (150 mm) lifts and disked with the underlying lift until a uniform

homogenous material is formed. This process also applies to the overlaying lifts. The disk must have a minimum blade diameter of 24 inches (600 mm).

When embankments are to be constructed on hillsides or existing slopes that are steeper than 3H:1V, steps shall be keyed into the existing slope by stepping and benching as shown in the plans or as directed by the Engineer.

Compaction. Soils classification for moisture content control will be determined by the Soils Inspector using visual field examination techniques and the IDH Textural Classification Chart.

When tested for density in place each lift shall have a maximum moisture content as follows.

a) A maximum of 110 percent of the optimum moisture for all forms of clay soils.

b) A maximum of 105 percent of the optimum moisture for all forms of clay loam soils.

Stability. The requirement for embankment stability in Article 205.04 will be measured with a Dynamic Cone Penetrometer (DCP) according to the test method in the IDOT Geotechnical Manual. The penetration rate must be equal or less than 1.5 inches (38 mm) per blow.

Basis of Payment. This work will not be paid separately but will be considered as INCLUDED in the various items of excavation.

**FRICTION AGGREGATE (D-1)**
Effective: January 1, 2011
Revised: April 29, 2016

Revise Article 1004.03(a) of the Standard Specifications to read:

"**1004.03 Coarse Aggregate for Hot-Mix Asphalt (HMA).** The aggregate shall be according to Article 1004.01 and the following.

(a) Description. The coarse aggregate for HMA shall be according to the following table.

| Use | Mixture | Aggregates Allowed |
|---|---|---|
| Class A | Seal or Cover | Allowed Alone or in Combination [5/]:<br>Gravel<br>Crushed Gravel<br>Carbonate Crushed Stone<br>Crystalline Crushed Stone<br>Crushed Sandstone<br>Crushed Slag (ACBF)<br>Crushed Steel Slag<br>Crushed Concrete |
| HMA Low ESAL | Stabilized Subbase or Shoulders | Allowed Alone or in Combination [5/]:<br>Gravel<br>Crushed Gravel<br>Carbonate Crushed Stone<br>Crystalline Crushed Stone<br>Crushed Sandstone<br>Crushed Slag (ACBF)<br>Crushed Steel Slag[1/]<br>Crushed Concrete |
| HMA High ESAL Low ESAL | Binder IL-19.0 or IL-19.0L<br><br>SMA Binder | Allowed Alone or in Combination [5/ 6/]:<br>Crushed Gravel<br>Carbonate Crushed Stone[2/]<br>Crystalline Crushed Stone<br>Crushed Sandstone<br>Crushed Slag (ACBF)<br>Crushed Concrete[3/] |

<table>
<tr><th>Use</th><th>Mixture</th><th>Aggregates Allowed</th></tr>
<tr><td>HMA<br>High ESAL<br>Low ESAL</td><td>C Surface and Leveling Binder IL-9.5 or IL-9.5L<br><br>SMA<br>Ndesign 50<br>Surface</td><td><u>Allowed Alone or in Combination</u> [5/]:<br><br>Crushed Gravel<br>Carbonate Crushed Stone[2/]<br>Crystalline Crushed Stone<br>Crushed Sandstone<br>Crushed Slag (ACBF)<br>Crushed Steel Slag[4/]<br>Crushed Concrete[3/]</td></tr>
<tr><td rowspan="5">HMA<br>High ESAL</td><td rowspan="5">D Surface and Leveling Binder IL-9.5<br><br>SMA<br>Ndesign 50<br>Surface</td><td><u>Allowed Alone or in Combination</u> [5/]:<br><br>Crushed Gravel<br>Carbonate Crushed Stone (other than Limestone)[2/]<br>Crystalline Crushed Stone<br>Crushed Sandstone<br>Crushed Slag (ACBF)<br>Crushed Steel Slag[4/]<br>Crushed Concrete[3/]</td></tr>
<tr><td><u>Other Combinations Allowed:</u><br><table><tr><th>Up to...</th><th>With...</th></tr><tr><td>25% Limestone</td><td>Dolomite</td></tr><tr><td>50% Limestone</td><td>Any Mixture D aggregate other than Dolomite</td></tr><tr><td>75% Limestone</td><td>Crushed Slag (ACBF) or Crushed Sandstone</td></tr></table></td></tr>
<tr><td>HMA<br>High ESAL</td><td>E Surface<br>IL-9.5<br><br>SMA<br>Ndesign 80<br>Surface</td><td><u>Allowed Alone or in Combination</u> [5/ 6/]:<br><br>Crystalline Crushed Stone<br>Crushed Sandstone<br>Crushed Slag (ACBF)<br>Crushed Steel Slag<br><br>No Limestone.</td></tr>
<tr><td colspan="2"></td><td><u>Other Combinations Allowed:</u><br><table><tr><th>Up to...</th><th>With...</th></tr><tr><td>50% Dolomite[2/]</td><td>Any Mixture E aggregate</td></tr></table></td></tr>
</table>

| Use | Mixture | Aggregates Allowed | |
|---|---|---|---|
| | | 75% Dolomite[2/] | Crushed Sandstone, Crushed Slag (ACBF), Crushed Steel Slag, or Crystalline Crushed Stone |
| | | 75% Crushed Gravel[2/] or Crushed Concrete[3/] | Crushed Sandstone, Crystalline Crushed Stone, Crushed Slag (ACBF), or Crushed Steel Slag |
| HMA<br>High ESAL | F Surface<br>IL-9.5<br><br>SMA<br>Ndesign 80<br>Surface | <u>Allowed Alone or in Combination</u> [5/ 6/]:<br><br>Crystalline Crushed Stone<br>Crushed Sandstone<br>Crushed Slag (ACBF)<br>Crushed Steel Slag<br>No Limestone. | |
| | | <u>Other Combinations Allowed</u>: | |
| | | *Up to...* | *With...* |
| | | 50% Crushed Gravel[2/], Crushed Concrete[3/], or Dolomite[2/] | Crushed Sandstone, Crushed Slag (ACBF), Crushed Steel Slag, or Crystalline Crushed Stone |

1/ Crushed steel slag allowed in shoulder surface only.
2/ Carbonate crushed stone (limestone) and/or crushed gravel shall not be used in SMA Ndesign 80. In SMA Ndesign 50, carbonate crushed stone shall not be blended with any of the other aggregates allowed alone in Ndesign 50 SMA binder or Ndesign 50 SMA surface.
3/ Crushed concrete will not be permitted in SMA mixes.
4/ Crushed steel slag shall not be used as leveling binder.
5/ When combinations of aggregates are used, the blend percent measurements shall be by volume."
6/ Combining different types of aggregate will not be permitted in SMA Ndesign 80."

**GROUND TIRE RUBBER (GTR) MODIFIED ASPHALT BINDER (D-1)**
Effective: June 26, 2006
Revised: April 1, 2016

Add the following to the end of article 1032.05 of the Standard Specifications:

"(c) Ground Tire Rubber (GTR) Modified Asphalt Binder. A quantity of 10.0 to 14.0 percent GTR (Note 1) shall be blended by dry unit weight with a PG 64-28 to make a GTR 70-28 or a PG 58-28 to make a GTR 64-28. The base PG 64-28 and PG 58-28 asphalt binders shall meet the requirements of Article 1032.05(a). Compatible polymers may be added during production. The GTR modified asphalt binder shall meet the requirements of the following table.

| Test | Asphalt Grade GTR 70-28 | Asphalt Grade GTR 64-28 |
|---|---|---|
| Flash Point (C.O.C.), AASHTO T 48, °F (°C), min. | 450 (232) | 450 (232) |
| Rotational Viscosity, AASHTO T 316 @ 275 °F (135 °C), Poises, Pa·s, max. | 30 (3) | 30 (3) |
| Softening Point, AASHTO T 53, °F (°C), min. | 135 (57) | 130 (54) |
| Elastic Recovery, ASTM D 6084, Procedure A (sieve waived) @ 77 °F, (25 °C), aged, ss, 100 mm elongation, 5 cm/min., cut immediately, %, min. | 65 | 65 |

Note 1. GTR shall be produced from processing automobile and/or light truck tires by the ambient grinding method. GTR shall not exceed 1/16 in. (2 mm) in any dimension and shall contain no free metal particles or other 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, *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 |

Add the following to the end of Note 1. 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 must be capable of providing continuous mechanical mixing throughout by continuous agitation and 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."

Revise 1030.02(c) of the Standard Specifications to read:

"(c) RAP Materials (Note 5) ……..1031"

Add the following note to 1030.02 of the Standard Specifications:

Note 5. When using reclaimed asphalt pavement and/or reclaimed asphalt shingles, the maximum asphalt binder replacement percentage shall be according to the most recent special provision for recycled materials.

**HEAT OF HYDRATION CONTROL FOR CONCRETE STRUCTURES (D-1)**
Effective: November 1, 2013

Article 1020.15 shall not apply.

**HMA MIXTURE DESIGN REQUIREMENTS (D-1)**
Effective: January 1, 2013
Revised: April 1, 2016

**1) Design Composition and Volumetric Requirements**

Revise the table in Article 406.06(d) of the Standard Specifications to read:

| "MINIMUM COMPACTED LIFT THICKNESS | |
|---|---|
| Mixture Composition | Thickness, in. (mm) |
| IL-4.75 | 3/4 (19) |
| SMA-9.5, IL-9.5, IL-9.5L | 1 1/2 (38) |
| SMA-12.5 | 2 (50) |
| IL-19.0, IL-19.0L | 2 1/4 (57)" |

Revise the table in Article 1004.03(c) of the Standard Specifications to read:

| "Use | Size/Application | Gradation No. |
|---|---|---|
| Class A-1, 2, & 3 | 3/8 in. (10 mm) Seal | CA 16 |
| Class A-1 | 1/2 in. (13 mm) Seal | CA 15 |
| Class A-2 & 3 | Cover | CA 14 |
| HMA High ESAL | IL-19.0<br>IL-9.5 | CA 11 [1/]<br>CA 16, CA 13[3/] |
| HMA Low ESAL | IL-19.0L<br>IL-9.5L<br>Stabilized Subbase<br>or Shoulders | CA 11 [1/]<br>CA 16 |
| SMA[2/] | 1/2 in. (12.5mm)<br>Binder & Surface<br>IL 9.5<br>Surface | CA13[3/], CA14 or CA16<br><br>CA16, CA 13[3/] |

1/ CA 16 or CA 13 may be blended with the gradations listed.
2/ The coarse aggregates used shall be capable of being combined with stone sand, slag sand, or steel slag sand meeting the FA/FM 20 gradation and mineral filler to meet the approved mix design and the mix requirements noted herein.
3/ CA 13 shall be 100 percent passing the 1/2 in. (12.5mm) sieve.

Revise Article 1004.03(e) of the Supplemental Specifications to read:

"(e) Absorption. For SMA the coarse aggregate shall also have water absorption ≤ 2.0 percent."

Revise the last paragraph of Article 1102.01 (a) (5) of the Standard Specifications to read:

"IL-4.75 and Stone Matrix Asphalt (SMA) mixtures which contain aggregate having absorptions greater than or equal to 2.0 percent, or which contain steal slag sand, shall have minimum surge bin storage plus haul time of 1.5 hours."

Revise the nomenclature table in Article 1030.01 of the Standard Specifications to read:

| | |
|---|---|
| "High ESAL | IL-19.0 binder;<br>IL-9.5 surface; IL-4.75; SMA-12.5, SMA-9.5 |
| Low ESAL | IL-19.0L binder; IL-9.5L surface;<br>Stabilized Subbase (HMA)[1/];<br>HMA Shoulders[2/] |

1/ Uses 19.0L binder mix.

2/ Uses 19.0L for lower lifts and 9.5L for surface lift."

Revise Article 1030.02 of the Standard Specifications and Supplemental Specifications to read:

"**1030.02 Materials.** Materials shall be according to the following.

| Item | Article/Section |
|---|---|
| (a) Coarse Aggregate | 1004.03 |
| (b) Fine Aggregate | 1003.03 |
| (c) RAP Material | 1031 |
| (d) Mineral Filler | 1011 |
| (e) Hydrated Lime | 1012.01 |
| (f) Slaked Quicklime (Note 1) | |
| (g) Performance Graded Asphalt Binder (Note 2) | 1032 |
| (h) Fibers (Note 3) | |
| (i) Warm Mix Asphalt (WMA) Technologies (Note 4) | |

Note 1. Slaked quicklime shall be according to ASTM C 5.

Note 2. The asphalt binder shall be an SBS PG 76-28 when the SMA is used on a full-depth asphalt pavement and SBS PG 76-22 when used as an overlay, except where modified herein. The asphalt binder shall be an Elvaloy or SBS PG 76-22 for IL-4.75, except where modified herein. The elastic recovery shall be a minimum of 80.

Note 3. A stabilizing additive such as cellulose or mineral fiber shall be added to the SMA mixture according to Illinois Modified AASHTO M 325. The stabilizing additive shall meet the Fiber Quality Requirements listed in Illinois Modified AASHTO M 325. Prior to approval and use of fibers, the Contractor shall submit a notarized certification by the producer of these materials stating they meet these requirements. Reclaimed Asphalt Shingles (RAS) may be used in Stone Matrix Asphalt (SMA) mixtures designed with an SBA polymer modifier as a fiber additive if the mix design with RAS included meets AASHTO T305 requirements. The RAS shall be from a certified source that produces either Type I or Type 2. Material shall meet requirements noted herein and the actual dosage rate will be determined by the Engineer.

Note 4. Warm mix additives or foaming processes shall be selected from the current Bureau of Materials and Physical Research Approved List, "Warm Mix Asphalt Technologies"."

Revise Article 1030.04(a)(1) of the Standard Specifications and the Supplemental Specifications to read:

"(1) High ESAL Mixtures. The Job Mix Formula (JMF) shall fall within the following limits.

| High ESAL, MIXTURE COMPOSITION (% PASSING) 1/ | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sieve Size | IL-19.0 mm | | SMA 4/ IL-12.5 mm | | SMA 4/ IL-9.5 mm | | IL-9.5 mm | | IL-4.75 mm | |
| | min | max | min | max | min | max | min | max | min | max |
| 1 1/2 in (37.5 mm) | | | | | | | | | | |
| 1 in. (25 mm) | | 100 | | | | | | | | |
| 3/4 in. (19 mm) | 90 | 100 | | 100 | | | | | | |
| 1/2 in. (12.5 mm) | 75 | 89 | 80 | 100 | | 100 | | 100 | | 100 |
| 3/8 in. (9.5 mm) | | | | 65 | 90 | 100 | 90 | 100 | | 100 |
| #4 (4.75 mm) | 40 | 60 | 20 | 30 | 36 | 50 | 34 | 69 | 90 | 100 |
| #8 (2.36 mm) | 20 | 42 | 16 | 24 5/ | 16 | 32 5/ | 34 6/ | 52 2/ | 70 | 90 |
| #16 (1.18 mm) | 15 | 30 | | | | | 10 | 32 | 50 | 65 |
| #30 (600 μm) | | | 12 | 16 | 12 | 18 | | | | |
| #50 (300 μm) | 6 | 15 | | | | | 4 | 15 | 15 | 30 |
| #100 (150 μm) | 4 | 9 | | | | | 3 | 10 | 10 | 18 |
| #200 (75 μm) | 3 | 6 | 7.0 | 9.0 3/ | 7.5 | 9.5 3/ | 4 | 6 | 7 | 9 3/ |
| Ratio Dust/Asphalt Binder | | 1.0 | | 1.5 | | 1.5 | | 1.0 | | 1.0 |

1/ Based on percent of total aggregate weight.

2/ The mixture composition shall not exceed 44 percent passing the #8 (2.36 mm) sieve for surface courses with Ndesign = 90.

3/ Additional minus No. 200 (0.075 mm) material required by the mix design shall be mineral filler, unless otherwise approved by the Engineer.

4/ The maximum percent passing the #635 (20 μm) sieve shall be ≤ 3 percent.

5/ When establishing the Adjusted Job Mix Formula (AJMF) the percent passing the #8 (2.36 mm) sieve shall not be adjusted above the percentage stated on the table.

6/ When establishing the Adjusted Job Mix Formula (AJMF) the percent passing the #8 (2.36 mm) sieve shall not be adjusted below 34 percent.

Revise Article 1030.04(b)(1) of the Standard Specifications to read:

"(1) High ESAL Mixtures. The target value for the air voids of the HMA shall be 4.0 percent and for IL-4.75 it shall be 3.5 percent at the design number of gyrations. The VMA and VFA of the HMA design shall be based on the nominal maximum size of the aggregate in the mix, and shall conform to the following requirements.

| VOLUMETRIC REQUIREMENTS<br>High ESAL | | | | |
|---|---|---|---|---|
| | Voids in the Mineral Aggregate (VMA), % minimum | | | Voids Filled with Asphalt Binder (VFA), % |
| Ndesign | IL-19.0 | IL-9.5 | IL-4.75[1/] | |
| 50 | 13.5 | 15.0 | 18.5 | 65 – 78 [2/] |
| 70 | | | | 65 - 75 |
| 90 | | | | |

1/ Maximum Draindown for IL-4.75 shall be 0.3 percent

2/ VFA for IL-4.75 shall be 72-85 percent"

Replace Article 1030.04(b)(3) of the Standard Specifications with the following:

"(3) SMA Mixtures.

| Volumetric Requirements<br>SMA [1/] | | | |
|---|---|---|---|
| Ndesign | Design Air Voids Target % | Voids in the Mineral Aggregate (VMA), % min. | Voids Filled with Asphalt (VFA), % |
| 80 [4/] | 3.5 | 17.0 [2/]<br>16.0 [3/] | 75 - 83 |

1/ Maximum draindown shall be 0.3 percent. The draindown shall be determined at the JMF asphalt binder content at the mixing temperature plus 30 °F.

2/ Applies when specific gravity of coarse aggregate is ≥ 2.760.

3/ Applies when specific gravity of coarse aggregate is < 2.760.

4/ Blending of different types of aggregate will not be permitted.
For surface course, the coarse aggregate can be crushed steel slag, crystalline crushed stone or crushed sandstone. For binder course, coarse

aggregate shall be crushed stone (dolomite), crushed gravel, crystalline crushed stone, or crushed sandstone.

Add to the end of Article 1030.05 (d) (2) a. of the Standard Specifications:

"During production, the Contractor shall test SMA mixtures for draindown according to AASHTO T305 at a frequency of 1 per day of production."

Delete last sentence of the second paragraph of Article 1102.01(a) (4) b. 2.

Add to the end of Article 1102.01 (a) (4) b. 2.:

"As an option, collected dust (baghouse) may be used in lieu of manufactured mineral filler according to the following:

(a.) Sufficient collected dust (baghouse) is available for production of the SMA mix for the entire project.

(b.) A mix design was prepared based on collected dust (baghouse).

**2) Design Verification and Production**

Revise Article 1030.04 (d) of the Standard Specifications to read:

"(d) Verification Testing. High ESAL, IL-4.75, and SMA mix designs submitted for verification will be tested to ensure that the resulting mix designs will pass the required criteria for the Hamburg Wheel Test (IL mod AASHTO T-324) and the Tensile Strength Test (IL mod AASHTO T-283). The Department will perform a verification test on gyratory specimens compacted by the Contractor. If the mix fails the Department's verification test, the Contractor shall make the necessary changes to the mix and resubmit compacted specimens to the Department for verification. If the mix fails again, the mix design will be rejected.

All new and renewal mix designs will be required to be tested, prior to submittal for Department verification and shall meet the following requirements:

(1) Hamburg Wheel Test criteria. The maximum allowable rut depth shall be 0.5 in. (12.5 mm). The minimum number of wheel passes at the 0.5 in. (12.5 mm) rut depth criteria shall be based on the high temperature binder grade of the mix as specified in the mix requirements table of the plans.

Illinois Modified AASHTO T 324 Requirements [1/]

| Asphalt Binder Grade | # Repetitions | Max Rut Depth (mm) |
|---|---|---|
| PG 70 -XX (or higher) | 20,000 | 12.5 |
| PG 64 -XX (or lower) | 10,000 | 12.5 |

1/ When produced at temperatures of 275 ± 5 °F (135 ± 3 °C) or less, loose Warm Mix Asphalt shall be oven aged at 270 ± 5 °F (132 ± 3 °C) for two hours prior to gyratory compaction of Hamburg Wheel specimens.

Note: For SMA Designs (N-80) the maximum rut depth is 6.0 mm at 20,000 repetitions.
For IL 4.75mm Designs (N-50) the maximum rut depth is 9.0mm at 15,000 repetitions.

(2) Tensile Strength Criteria. The minimum allowable conditioned tensile strength shall be 60 psi (415 kPa) for non-polymer modified performance graded (PG) asphalt binder and 80 psi (550 kPa) for polymer modified PG asphalt binder. The maximum allowable unconditioned tensile strength shall be 200 psi (1380 kPa)."

Production Testing. Revise first paragraph of Article 1030.06(a) of the Standard Specifications to read:

"(a) High ESAL, IL-4.75, WMA, and SMA Mixtures. For each contract, a 300 ton (275 metric tons) test strip, except for SMA mixtures it will be 400 ton (363 metric ton), will be required at the beginning of HMA production for each mixture with a quantity of 3000 tons (2750 metric tons) or more according to the Manual of Test Procedures for Materials "Hot Mix Asphalt Test Strip Procedures".

Add the following after the sixth paragraph in Article 1030.06 (a) of the Standard Specifications:

"The Hamburg Wheel test shall also be conducted on all HMA mixtures from a sample taken within the first 500 tons (450 metric tons) on the first day of production or during start up with a split reserved for the Department. The mix sample shall be tested according to the Illinois Modified AASHTO T 324 and shall meet the requirements specified herein. Mix production shall not exceed 1500 tons (1350 metric tons) or one day's production, whichever comes first, until the testing is completed and the mixture is found to be in conformance. The requirement to cease mix production may be waived if the plant produced mixture demonstrates conformance prior to start of mix production for a contract.
If the mixture fails to meet the Hamburg Wheel criteria, no further mixture will be accepted until the Contractor takes such action as is necessary to furnish a mixture meeting the criteria"

Method of Measurement:

Add the following after the fourth paragraph of Article 406.13 (b):

"The plan quantities of SMA mixtures shall be adjusted using the actual approved binder and surface Mix Design's $G_{mb}$."

Basis of Payment.

Replace the fourth paragraph of Article 406.14 of the Standard Specifications with the following:

"Stone matrix asphalt will be paid for at the contract unit price per ton (metric ton) for POLYMERIZED HOT-MIX ASPHALT SURFACE COURSE, STONE MATRIX ASPHALT, of the mixture composition and Ndesign specified; and POLYMERIZED HOT-MIX ASPHALT

BINDER COURSE, STONE MATRIX ASPHALT, of the mixture composition and Ndesign specified."

**MAINTENANCE OF ROADWAYS**
Effective: September 30, 1985
Revised: November 1, 1996

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 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.

**PUBLIC CONVENIENCE AND SAFETY (DIST 1)**
Effective: May 1, 2012
Revised: July 15, 2012

Add the following to the end of the fourth paragraph of Article 107.09:

> "If the holiday is on a Saturday or Sunday, and is legally observed on a Friday or Monday, the length of Holiday Period for Monday or Friday shall apply."

Add the following sentence after the Holiday Period table in the fourth paragraph of Article 107.09:

> "The Length of Holiday Period for Thanksgiving shall be from 5:00 AM the Wednesday prior to 11:59 PM the Sunday After"

Delete the fifth paragraph of Article 107.09 of the Standard Specifications:

> "On weekends, excluding holidays, roadways with Average Daily Traffic of 25,000 or greater, all lanes shall be open to traffic from 3:00 P.M. Friday to midnight Sunday except where structure construction or major rehabilitation makes it impractical."

**RECLAIMED ASPHALT PAVEMENT AND RECLAIMED ASPHALT SHINGLES (D-1)**
Effective: November 1, 2012
Revise: April 2, 2016

Revise Section 1031 of the Standard Specifications to read:

"**SECTION 1031. RECLAIMED ASPHALT PAVEMENT AND RECLAIMED ASPHALT SHINGLES**

**1031.01 Description.** Reclaimed asphalt pavement and reclaimed asphalt shingles shall be according to the following.

(a) Reclaimed Asphalt Pavement (RAP). RAP is the material resulting from cold milling or crushing an existing hot-mix asphalt (HMA) pavement. RAP will be considered processed FRAP after completion of both crushing and screening to size. The Contractor shall supply written documentation that the RAP originated from routes or airfields under federal, state, or local agency jurisdiction.

(b) Reclaimed Asphalt Shingles (RAS). Reclaimed asphalt shingles (RAS). RAS is from the processing and grinding of preconsumer or post-consumer shingles. RAS shall be a clean and uniform material with a maximum of 0.5 percent unacceptable material, as defined in Bureau of Materials and Physical Research Policy Memorandum, "Reclaimed Asphalt Shingle (RAS) Sources", by weight of RAS. All RAS used shall come from a Bureau of Materials and Physical Research approved processing facility where it shall be ground and processed to 100 percent passing the 3/8 in. (9.5 mm) sieve and 90 percent passing the #4 (4.75 mm) sieve. RAS shall meet the testing requirements specified herein. In addition, RAS shall meet the following Type 1 or Type 2 requirements.

(1) Type 1. Type 1 RAS shall be processed, preconsumer asphalt shingles salvaged from the manufacture of residential asphalt roofing shingles.

(2) Type 2. Type 2 RAS shall be processed post-consumer shingles only, salvaged from residential, or four unit or less dwellings not subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP).

**1031.02 Stockpiles.** RAP and RAS stockpiles shall be according to the following.

(a) RAP Stockpiles. The Contractor shall construct individual, sealed RAP stockpiles meeting one of the following definitions. Additional processed RAP (FRAP) shall be stockpiled in a separate working pile, as designated in the QC Plan, and only added to the sealed stockpile when test results for the working pile are complete and are found to meet tolerances specified herein for the original sealed FRAP stockpile. Stockpiles shall be sufficiently separated to prevent intermingling at the base. All stockpiles (including unprocessed RAP and FRAP) shall be identified by signs indicating the type as listed below (i.e. "Non- Quality, FRAP -#4 or Type 2 RAS", etc…).

(1) Fractionated RAP (FRAP). FRAP shall consist of RAP from Class I, Superpave HMA (High and Low ESAL) or equivalent mixtures. The coarse aggregate in FRAP shall be crushed aggregate and may represent more than one aggregate type and/or quality, but shall be at least C quality. All FRAP shall be processed prior to testing and sized into fractions with the separation occurring on or between the #4 (4.75 mm) and 1/2 in.

(12.5 mm) sieves. Agglomerations shall be minimized such that 100 percent of the RAP in the coarse fraction shall pass the maximum sieve size specified for the mix the FRAP will be used in.

(2) Restricted FRAP (B quality) stockpiles shall consist of RAP from Class I, Superpave (High ESAL), or HMA (High ESAL). If approved by the Engineer, the aggregate from a maximum 3.0 in. (75 mm) single combined pass of surface/binder milling will be classified as B quality. All millings from this application will be processed into FRAP as described previously.

(3) Conglomerate. Conglomerate RAP stockpiles shall consist of RAP from Class I, Superpave HMA (High and Low ESAL) or equivalent mixtures. The coarse aggregate in this RAP shall be crushed aggregate and may represent more than one aggregate type and/or quality, but shall be at least C quality. This RAP may have an inconsistent gradation and/or asphalt binder content prior to processing. All conglomerate RAP shall be processed (FRAP) prior to testing. Conglomerate RAP stockpiles shall not contain steel slag or other expansive material as determined by the Department.

(4) Conglomerate “D” Quality (DQ). Conglomerate DQ RAP stockpiles shall consist of RAP from HMA shoulders, bituminous stabilized subbases or Superpave (Low ESAL)/HMA (Low ESAL) IL-19.0L binder mixture. The coarse aggregate in this RAP may be crushed or round but shall be at least D quality. This RAP may have an inconsistent gradation and/or asphalt binder content. Conglomerate DQ RAP stockpiles shall not contain steel slag or other expansive material as determined by the Department.

(5) Non-Quality. RAP stockpiles that do not meet the requirements of the stockpile categories listed above shall be classified as “Non-Quality”.

RAP or FRAP containing contaminants, such as earth, brick, sand, concrete, sheet asphalt, bituminous surface treatment (i.e. chip seal), pavement fabric, joint sealants, plant cleanout etc., will be unacceptable unless the contaminants are removed to the satisfaction of the Engineer. Sheet asphalt shall be stockpiled separately.

(b) RAS Stockpiles. Type 1 and Type 2 RAS shall be stockpiled separately and shall be sufficiently separated to prevent intermingling at the base. Each stockpile shall be signed indicating what type of RAS is present.

However, a RAS source may submit a written request to the Department for approval to blend mechanically a specified ratio of Type 1 RAS with Type 2 RAS. The source will not be permitted to change the ratio of the blend without the Department prior written approval. The Engineer’s written approval will be required, to mechanically blend RAS with any fine aggregate produced under the AGCS, up to an equal weight of RAS, to improve workability. The fine aggregate shall be “B Quality” or better from an approved Aggregate Gradation Control System source. The fine aggregate shall be one that is approved for use in the HMA mixture and accounted for in the mix design and during HMA production.

Records identifying the shingle processing facility supplying the RAS, RAS type, and lot number shall be maintained by project contract number and kept for a minimum of three years.

**1031.03 Testing.** FRAP and RAS testing shall be according to the following.

(a) FRAP Testing. When used in HMA, the FRAP shall be sampled and tested either during processing or after stockpiling. It shall also be sampled during HMA production.

(1) During Stockpiling. For testing during stockpiling, washed extraction samples shall be run at the minimum frequency of one sample per 500 tons (450 metric tons) for the first 2000 tons (1800 metric tons) and one sample per 2000 tons (1800 metric tons) thereafter. A minimum of five tests shall be required for stockpiles less than 4000 tons (3600 metric tons).

(2) Incoming Material. For testing as incoming material, washed extraction samples shall be run at a minimum frequency of one sample per 2000 tons (1800 metric tons) or once per week, whichever comes first.

(3) After Stockpiling. For testing after stockpiling, the Contractor shall submit a plan for approval to the District proposing a satisfactory method of sampling and testing the RAP/FRAP pile either in-situ or by restockpiling. The sampling plan shall meet the minimum frequency required above and detail the procedure used to obtain representative samples throughout the pile for testing.

Before extraction, each field sample of FRAP, shall be split to obtain two samples of test sample size. One of the two test samples from the final split shall be labeled and stored for Department use. The Contractor shall extract the other test sample according to Department procedure. The Engineer reserves the right to test any sample (split or Department-taken) to verify Contractor test results.

(b) RAS Testing. RAS shall be sampled and tested during stockpiling according to Bureau of Materials and Physical Research Policy Memorandum, “Reclaimed Asphalt Shingle (RAS) Sources”. The Contractor shall also sample as incoming material at the HMA plant.

(1) During Stockpiling. Washed extraction and testing for unacceptable materials shall be run at the minimum frequency of one sample per 200 tons (180 metric tons) for the first 1000 tons (900 metric tons) and one sample per 1000 tons (900 metric tons) thereafter. A minimum of five samples are required for stockpiles less than 1000 tons (900 metric tons). Once a ≤ 1000 ton (900 metric ton), five-sample/test stockpile has been established it shall be sealed. Additional incoming RAS shall be in a separate working pile as designated in the Quality Control plan and only added to the sealed stockpile when the test results of the working pile are complete and are found to meet the tolerances specified herein for the original sealed RAS stockpile.

(2) Incoming Material. For testing as incoming material at the HMA plant, washed extraction shall be run at the minimum frequency of one sample per 250 tons (227 metric tons). A minimum of five samples are required for stockpiles less than 1000 tons (900 metric tons). The incoming material test results shall meet the tolerances specified herein.

The Contractor shall obtain and make available all test results from start of the initial stockpile sampled and tested at the shingle processing facility in accordance with the facility’s QC Plan.

Before extraction, each field sample shall be split to obtain two samples of test sample size. One of the two test samples from the final split shall be labeled and stored for Department use. The Contractor shall extract the other test sample according to Department procedures. The Engineer reserves the right to test any sample (split or Department-taken) to verify Contractor test results.

**1031.04 Evaluation of Tests.** Evaluation of test results shall be according to the following.

(a) Evaluation of FRAP Test Results. All test results shall be compiled to include asphalt binder content, gradation and, when applicable (for slag), $G_{mm}$. A five test average of results from the original pile will be used in the mix designs. Individual extraction test results run thereafter, shall be compared to the average used for the mix design, and will be accepted if within the tolerances listed below.

| Parameter | FRAP |
|---|---|
| No. 4 (4.75 mm) | ± 6 % |
| No. 8 (2.36 mm) | ± 5 % |
| No. 30 (600 μm) | ± 5 % |
| No. 200 (75 μm) | ± 2.0 % |
| Asphalt Binder | ± 0.3 % |
| $G_{mm}$ | ± 0.03 1/ |

1/ For stockpile with slag or steel slag present as determined in the current Manual of Test Procedures Appendix B 21, "Determination of Reclaimed Asphalt Pavement Aggregate Bulk Specific Gravity".

If any individual sieve and/or asphalt binder content tests are out of the above tolerances when compared to the average used for the mix design, the FRAP stockpile shall not be used in Hot-Mix Asphalt unless the FRAP representing those tests is removed from the stockpile. All test data and acceptance ranges shall be sent to the District for evaluation.

The Contractor shall maintain a representative moving average of five tests to be used for Hot-Mix Asphalt production.

With the approval of the Engineer, the ignition oven may be substituted for extractions according to the ITP, "Calibration of the Ignition Oven for the Purpose of Characterizing Reclaimed Asphalt Pavement (RAP)" or Illinois Modified AASHTO T-164-11, Test Method A.

(b) Evaluation of RAS Test Results. All of the test results, with the exception of percent unacceptable materials, shall be compiled and averaged for asphalt binder content and gradation. A five test average of results from the original pile will be used in the mix designs. Individual test results run thereafter, when compared to the average used for the mix design, will be accepted if within the tolerances listed below.

| Parameter | RAS |
|---|---|
| No. 8 (2.36 mm) | ± 5 % |
| No. 16 (1.18 mm) | ± 5 % |
| No. 30 (600 μm) | ± 4 % |

| | |
|---|---|
| No. 200 (75 µm) | ± 2.5 % |
| Asphalt Binder Content | ± 2.0 % |

If any individual sieve and/or asphalt binder content tests are out of the above tolerances when compared to the average used for the mix design, the RAS shall not be used in Hot-Mix Asphalt unless the RAS representing those tests is removed from the stockpile. All test data and acceptance ranges shall be sent to the District for evaluation.

(c) Quality Assurance by the Engineer. The Engineer may witness the sampling and splitting conduct assurance tests on split samples taken by the Contractor for quality control testing a minimum of once a month.

The overall testing frequency will be performed over the entire range of Contractor samples for asphalt binder content and gradation. The Engineer may select any or all split samples for assurance testing. The test results will be made available to the Contractor as soon as they become available.

The Engineer will notify the Contractor of observed deficiencies.

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/] | FRAP | RAS |
| 1/2 in. | 5.0% | |
| No. 4 | 5.0% | |
| No. 8 | 3.0% | 4.0% |
| No. 30 | 2.0% | 3.0% |
| No. 200 | 2.2% | 2.5% |
| Asphalt Binder Content | 0.3% | 1.0% |
| $G_{mm}$ | 0.030 | |

1/ Based on washed extraction.

In the event comparisons are outside the above acceptable limits of precision, the Engineer will immediately investigate.

(d) Acceptance by the Engineer. Acceptable of the material will be based on the validation of the Contractor's quality control by the assurance process.

**1031.05 Quality Designation of Aggregate in RAP and FRAP.**

(a) RAP. The aggregate quality of the RAP for homogeneous, conglomerate, and conglomerate "D" quality stockpiles shall be set by the lowest quality of coarse aggregate in the RAP stockpile and are designated as follows.

(1) RAP from Class I, Superpave/HMA (High ESAL), or (Low ESAL) IL-9.5L surface mixtures are designated as containing Class B quality coarse aggregate.

(2) RAP from Superpave/HMA (Low ESAL) IL-19.0L binder mixture is designated as Class D quality coarse aggregate.

(3) RAP from Class I, Superpave/HMA (High ESAL) binder mixtures, bituminous base course mixtures, and bituminous base course widening mixtures are designated as containing Class C quality coarse aggregate.

(4) RAP from bituminous stabilized subbase and BAM shoulders are designated as containing Class D quality coarse aggregate.

(b) FRAP. If the Engineer has documentation of the quality of the FRAP aggregate, the Contractor shall use the assigned quality provided by the Engineer.

If the quality is not known, the quality shall be determined as follows. Fractionated RAP stockpiles containing plus #4 (4.75 mm) sieve coarse aggregate shall have a maximum tonnage of 5,000 tons (4,500 metric tons). The Contractor shall obtain a representative sample witnessed by the Engineer. The sample shall be a minimum of 50 lb (25 kg). The sample shall be extracted according to Illinois Modified AASHTO T 164 by a consultant laboratory prequalified by the Department for the specified testing. The consultant laboratory shall submit the test results along with the recovered aggregate to the District Office. The cost for this testing shall be paid by the Contractor. The District will forward the sample to the Bureau of Materials and Physical Research Aggregate Lab for MicroDeval Testing, according to ITP 327. A maximum loss of 15.0 percent will be applied for all HMA applications. The fine aggregate portion of the fractionated RAP shall not be used in any HMA mixtures that require a minimum of “B” quality aggregate or better, until the coarse aggregate fraction has been determined to be acceptable thru a MicroDeval Testing.

**1031.06 Use of FRAP and/or RAS in HMA.** The use of FRAP and/or RAS shall be the Contractor’s option when constructing HMA in all contracts.

(a) FRAP. The use of FRAP in HMA shall be as follows.

(1) Coarse Aggregate Size (after extraction). The coarse aggregate in all FRAP shall be equal to or less than the nominal maximum size requirement for the HMA mixture to be produced.

(2) Steel Slag Stockpiles. FRAP stockpiles containing steel slag or other expansive material, as determined by the Department, shall be homogeneous and will be approved for use in HMA (High ESAL and Low ESAL) mixtures regardless of lift or mix type.

(3) Use in HMA Surface Mixtures (High and Low ESAL). FRAP stockpiles for use in HMA surface mixtures (High and Low ESAL) shall have coarse aggregate that is Class B quality or better. FRAP shall be considered equivalent to limestone for frictional considerations unless produced/screened to minus 3/8 inch.

(4) Use in HMA Binder Mixtures (High and Low ESAL), HMA Base Course, and HMA Base Course Widening. FRAP stockpiles for use in HMA binder mixtures (High and

Low ESAL), HMA base course, and HMA base course widening shall be FRAP in which the coarse aggregate is Class C quality or better.

(5) Use in Shoulders and Subbase. FRAP stockpiles for use in HMA shoulders and stabilized subbase (HMA) shall be FRAP, Restricted FRAP, conglomerate, or conglomerate DQ.

(b) RAS. RAS meeting Type 1 or Type 2 requirements will be permitted in all HMA applications as specified herein.

(c) FRAP and/or RAS Usage Limits. Type 1 or Type 2 RAS may be used alone or in conjunction with FRAP in HMA mixtures up to a maximum of 5.0 percent by weight of the total mix.

When FRAP is used alone or FRAP is used in conjunction with RAS, the percent of virgin asphalt binder replacement (ABR) shall not exceed the amounts indicated in the table below for a given N Design.

Max Asphalt Binder Replacement for FRAP with RAS Combination

| HMA Mixtures [1/ 2/ 4/] | Maximum % ABR | | |
|---|---|---|---|
| Ndesign | Binder/Leveling Binder | Surface | Polymer Modified [3/] |
| 30L | 50 | 40 | 30 |
| 50 | 40 | 35 | 30 |
| 70 | 40 | 30 | 30 |
| 90 | 40 | 30 | 30 |
| 4.75 mm N-50 | | | 40 |
| SMA N-80 | | | 30 |

1/ For Low ESAL HMA shoulder and stabilized subbase, the percent asphalt binder replacement shall not exceed 50 % of the total asphalt binder in the mixture.

2/ When the binder replacement exceeds 15 % for all mixes, except for SMA and IL-4.75, the high and low virgin asphalt binder grades shall each be reduced by one grade (i.e. 25 % binder replacement using a virgin asphalt binder grade of PG64-22 will be reduced to a PG58-28). When constructing full depth HMA and the ABR is less than 15 %, the required virgin asphalt binder grade shall be PG64-28.

3/ When the ABR for SMA or IL-4.75 is 15 % or less, the required virgin asphalt binder shall be SBS PG76-22 and the elastic recovery shall be a minimum of 80. When the ABR for SMA or IL-4.75 exceeds 15%, the virgin asphalt binder grade shall be SBS PG70-28 and the elastic recovery shall be a minimum of 80.

4/ When FRAP or RAS is used alone, the maximum percent asphalt binder replacement designated on the table shall be reduced by 10 %.

**1031.07 HMA Mix Designs.** At the Contractor's option, HMA mixtures may be constructed utilizing RAP/FRAP and/or RAS material meeting the detailed requirements specified herein.

(a) FRAP and/or RAS. FRAP and /or RAS mix designs shall be submitted for verification. If additional FRAP or RAS stockpiles are tested and found to be within tolerance, as defined under "Evaluation of Tests" herein, and meet all requirements herein, the additional FRAP or RAS stockpiles may be used in the original design at the percent previously verified.

(b) RAS. Type 1 and Type 2 RAS are not interchangeable in a mix design. A RAS stone bulk specific gravity (Gsb) of 2.300 shall be used for mix design purposes.

**1031.08 HMA Production.** HMA production utilizing FRAP and/or RAS shall be as follows.

To remove or reduce agglomerated material, a scalping screen, gator, crushing unit, or comparable sizing device approved by the Engineer shall be used in the RAS and FRAP 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 the Engineer.

If during mix production, corrective actions fail to maintain FRAP, RAS or QC/QA test results within control tolerances or the requirements listed herein the Contractor shall cease production of the mixture containing FRAP or RAS and conduct an investigation that may require a new mix design.

(a) RAS. RAS shall be incorporated into the HMA 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. 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 the mixture production is halted when RAS flow is interrupted.

(b) HMA Plant Requirements. HMA plants utilizing FRAP and/or RAS shall be capable of automatically recording and printing the following information.

(1) Dryer Drum Plants.

a. Date, month, year, and time to the nearest minute for each print.

b. HMA mix number assigned by the Department.

c. Accumulated weight of dry aggregate (combined or individual) in tons (metric tons) to the nearest 0.1 ton (0.1 metric ton).

d. Accumulated dry weight of RAS and FRAP in tons (metric tons) to the nearest 0.1 ton (0.1 metric ton).

e. Accumulated mineral filler in revolutions, tons (metric tons), etc. to the nearest 0.1 unit.

f. Accumulated asphalt binder in gallons (liters), tons (metric tons), etc. to the nearest 0.1 unit.

g. Residual asphalt binder in the RAS and FRAP material as a percent of the total mix to the nearest 0.1 percent.

h. Aggregate RAS and FRAP moisture compensators in percent as set on the control panel. (Required when accumulated or individual aggregate and RAS and FRAP are printed in wet condition.)

i. When producing mixtures with FRAP and/or RAS, a positive dust control system shall be utilized.

j. Accumulated mixture tonnage.

k. Dust Removed (accumulated to the nearest 0.1 ton (0.1 metric ton))

(2) Batch Plants.

a. Date, month, year, and time to the nearest minute for each print.

b. HMA mix number assigned by the Department.

c. Individual virgin aggregate hot bin batch weights to the nearest pound (kilogram).

d. Mineral filler weight to the nearest pound (kilogram).

f. RAS and FRAP weight to the nearest pound (kilogram).

g. Virgin asphalt binder weight to the nearest pound (kilogram).

h. Residual asphalt binder in the RAS and FRAP material as a percent of the total mix to the nearest 0.1 percent.

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.

**1031.09 RAP in Aggregate Surface Course and Aggregate Wedge Shoulders, Type B.** The use of RAP or FRAP in aggregate surface course and aggregate shoulders shall be as follows.

(a) Stockpiles and Testing. RAP stockpiles may be any of those listed in Article 1031.02, except “Non-Quality” and “FRAP”. The testing requirements of Article 1031.03 shall not apply. RAP used shall be according to the current Bureau of Materials and Physical Research Policy Memorandum, “Reclaimed Asphalt Pavement (RAP) for Aggregate Applications”.

(c) Gradation. The RAP material shall meet the gradation requirements for CA 6 according to Article 1004.01(c), except the requirements for the minus No. 200 (75 µm) sieve shall

not apply. The sample for the RAP material shall be air dried to constant weight prior to being tested for gradation."

**SLIPFORM PAVING (D-1)**

Effective: November 1, 2014

Revise Article 1020.04 Table 1, Note (5) of Standard Specifications to read:

"The slump range for slipform construction shall be 1/2 to 1 1/2 in."

Revise Article 1020.04 Table 1 (metric), Note (5) of Standard Specifications to read:

"The slump range for slipform construction shall be 13 to 40 mm."

**STATUS OF UTILITIES (D-1)**

Utility companies and/or municipal owners located within the construction limits of this project have provided the following information in regard to their facilities and the proposed improvements. The tables below contain a description of specific conflicts to be resolved and/or facilities which will require some action on the part of the Department's contractor to proceed with work. Each table entry includes an identification of the action necessary and, if applicable, the estimated duration required for the resolution.

UTILTIES TO BE ADJUSTED

Conflicts noted below have been identified by following the suggested staging plan included in the contract. The company has been notified of all conflicts and will be required to obtain the necessary permits to complete their work; in some instances resolution will be a function of the construction staging. The responsible agency must relocate or complete new installations as noted in the action column; this work has been deemed necessary to be complete for the Department's contractor to then work in the stage under which the item has been listed.

**PRE-STAGE**

| STAGE / LOCATION | TYPE | DESCRIPTION | RESPONSIBLE AGENCY | ACTION |
|---|---|---|---|---|
| Sta. 15+39 to Sta. 22+10, 28'-48' LT.<br><br>Sta. 22+10 to Sta. 28+50, 29'-30' Rt. | Overhead Electrical Lines (3-Phase) | Existing overhead lines and power poles (12 each) are in conflict with the proposed ditch grading and roadway widening.<br><br>Overhead electric line and power poles will need to be relocated prior to Contractor starting the roadway and bridge construction. | **Commonwealth Edison** | Contractor for Commonwealth Edison to relocate existing overhead lines and power poles from the westerly side of the roadway to the easterly side at the proposed ROW line.<br>30 Days Total |
| Sta. 10+00 to Sta. 28+50, 18'-40' LT.<br><br>Sta. 15+00 to Sta. 28+50, 30'-43' RT. | Underground Communication Cable within 6-4" PVC ducts (3 - Copper cables and 2-fiber optic cables), Lt.<br><br>AT&T manholes at Sta. 20+50, 30' Lt. | Existing 6-way duct bank and cable are in conflict with the proposed ditch grading and roadway widening at Sta. 22+00 to Sta. 28+50.<br><br>Existing AT&T manholes will need to be vertically adjusted at Sta. Sta. 20+50. | **AT&T Legal Mandate** | Contractor for AT&T to relocate existing cable.<br>XXX Days Total Estimated October 2016. |

| | | | | |
|---|---|---|---|---|
| | Cable on the right side of the roadway has no working service and will be cut off and abandoned. | Underground cable will need to be relocated prior to Contractor starting construction. | | |
| Sta. 10+00 to Sta. 20+50, 52' LT. | Underground gas main (2") | Existing gas main is in conflict with the proposed roadway widening, bridge construction and ditch grading.<br><br>Underground gas main will need to be relocated prior to Contractor starting the roadway and bridge construction. | **Northern Illinois Gas** | Contractor for Nicor to relocate existing gas main form the westerly side of the roadway to the easterly side of the roadway.<br>XXX Days Total |
| Sta.13+06 to Sta. 15+41, Lt. to Rt. | Sanitary sewer | Existing 36" Interceptor line 28' deep running across Bliss Road | **Fox Metro Water Reclamation District** | No Conflicts |

**STAGE 2A**

| STAGE / LOCATION | TYPE | DESCRIPTION | RESPONSIBLE AGENCY | ACTION |
|---|---|---|---|---|
| Sta. 10+00 to Sta. 28+50, 18'-40' LT. | AT&T manholes at Sta. 13+36, 28' Lt. | Existing AT&T manholes will need to be vertically adjusted at Sta. Sta. 13+36.<br><br>Existing manhole will need to be vertically adjust in order to complete the construction of the entrance to the Village Bible Church in Stage 2A. | **AT&T Legal Mandate** | Contractor for AT&T to vertically adjust manhole.<br>5 Days Total |

No conflicts to be resolved (or if there are conflicts they are to be listed as noted above)

**Pre-Stage: _____ Days Total Installation**
**Stage 2A: ___Days Total Installation**

The following contact information is what was used during the preparation of the plans as provided by the Agency/Company responsible for resolution of the conflict.

| Agency/Company Responsible to Resolve Conflict | Name of contact | Address | Phone | e-mail address |
|---|---|---|---|---|
| **Commonwealth Edison** | Rick Seidel | 1 Lincoln Centre, Oakbrook Terrace, IL 60181 | 630-229-5138 | Richard.Seidel@ComEd.com |
| **AT&T Legal Mandate** | Bruce Robbins | 1000 Commerce Dr., Floor 1, Oak Brook, IL 60523 | 630-573-6471 | br1831@att.com |
| **Northern Illinois Gas** | Bruce Koppang | 1844 Ferry Rd. Naperville, IL 60563 | 630-388-3046 | bkoppan@aglresources.com |
| **Fox Metro Water Reclamation District** | Michael Frankino | 1135 S. Lake St., Montgomery, IL 60538 | 630-301-6805 | MFrankino@foxmetro.dst.il.us |
| **Mediacom** | Patrick McGraw | | 815-597-5103 | pmcgraw@mediacomcc.com |
| **Wide Open West** | Chris Naylor | 1674 Frontenac Road, Naperville, IL 60563 | 630-930-8324 | chris.naylor@wowinc.com |
| **Midwest Fiber Networks** | Cory Schmuki | 6070 North Flint Road, Glendale, WI 53209 | (414) 459-3561 | cschmuki@midwestfibernetworks.com |

UTILITIES TO BE WATCHED AND PROTECTED

The areas of concern noted below have been identified by following the suggested staging plan included for the contract. The information provided is not a comprehensive list of all remaining

utilities, but those which during coordination were identified as ones which might require the Department's contractor to take into consideration when making the determination of the means and methods that would be required to construct the proposed improvement. In some instances the contractor will be responsible to notify the owner in advance of the work to take place so necessary staffing on the owners part can be secured.

**STAGE 1A**

| STAGE / LOCATION | TYPE | DESCRIPTION | OWNER | ACTION |
|---|---|---|---|---|
| Sta. 17+00 to Sta. 28+50, 18'-40' Lt. | Underground Communication Cable within 6-4" PVC ducts (3 - Copper cables and 2-fiber optic cables), Lt. | Existing duct is running adjacent to pavement widening and proposed ditch work. Because the duct will lowered in this area this will not be in conflict with the proposed improvements. | **AT&T Legal Mandate** | Contractor to have JULIE locate and then shall "pot" hole to verify alignment of cable along the widening. Utility Exploration pay item added to plans. |
| Sta. 16+63 to Sta. 22+00, 28'-48' LT.<br><br>Sta. 22+10 to Sta. 28+50, 29'-30' Rt. | Overhead Electrical Lines (3-Phase) | Existing overhead transmission lines will be relocated to 1' from proposed ROW on easterly side of roadway and should not be in conflict with work. | **Commonwealth Edison** | Contractor shall not excavate around power poles and shall store equipment away from the overhead lines. |
| Sta. 10+00 to Sta. 17+00, 60'-63' Rt.<br><br>Sta. 17+00 to Sta. 28+50, 20'-22' Rt. | Underground Water Distribution Main (12") | Existing underground watermain runs on the east side of the roadway has been relocated in Pre-stage work and should not be in conflict with work to be completed in Stage 1A. | **Village of Sugar Grove** | Contractor will have as-built survey from previously relocated pipe. Potential crossing will be marked and monitored in field. Fire hydrants and valve vaults will be clearly marked with lathe or other visible marking. |
| Sta. 10+00 to Sta. 20+50, 52' LT. | Underground gas main (2") | Existing gas main is in conflict with the proposed roadway widening and ditch grading. The gas main will be relocated to the east side of the roadway and should | **Northern Illinois Gas** | Contractor shall not excavate around gas main. |

| | | | | |
|---|---|---|---|---|
| | | not be in conflict with work. | | |
| Sta. 16+63 to Sta. 22+00, 28'-48' LT.<br><br>Sta. 22+10 to Sta. 28+50, 29'-30' Rt. | Overhead Communication (Fiber) | Existing overhead communication fiber lines shared with ComEd poles will be relocated with ComEd to 1' from proposed ROW on easterly side of roadway and should not be in conflict with work. | **Wide Open West** | Contractor shall not excavate around power poles and shall store equipment away from the overhead lines. |
| Sta. 10+50 to Sta. 28+50, 27' Rt. | Underground Communication Cable (96CT Armored Fiber 48SM) | Existing fiber is running in the easterly half of roadway within the County ROW. The cable is expected to be relocated because it will be in conflict with the relocated water main and ditch work. Because the cable will be lowered prior to construction this area this will not be in conflict with the proposed improvements. | **Midwest Fiber Networks** | Contractor to have JULIE locate and then shall "pot" hole to verify alignment of cable in this Stage. Utility Exploration pay item added to plans. |

**STAGE 1B**

| STAGE / LOCATION | TYPE | DESCRIPTION | OWNER | ACTION |
|---|---|---|---|---|
| Sta. 17+00 to Sta. 28+50, 18'-40' Lt. | Underground Communication Cable within 6-4" PVC ducts (3 - Copper cables and 2-fiber optic cables), Lt. | Existing duct is running adjacent to pavement widening and proposed ditch work. Because the duct will lowered in this area this will not be in conflict | **AT&T Legal Mandate** | Contractor to have JULIE locate and then shall "pot" hole to verify alignment of cable along the widening. Utility Exploration |

| | | | | |
|---|---|---|---|---|
| | | with the proposed improvements. | | pay item added to plans. |
| Sta. 10+00 to Sta. 28+50, 29'-30' Rt. | Overhead Electrical Lines (3-Phase) | Existing overhead transmission lines will be relocated to 1' from proposed ROW on easterly side of roadway and should not be in conflict with work. | **Commonwealth Edison** | Contractor shall not excavate around power poles and shall store equipment away from the overhead lines. |
| Sta. 10+00 to Sta. 17+00, 60'-63' Rt.<br><br>Sta. 17+00 to Sta. 28+50, 20'-22' Rt. | Underground Water Distribution Main (12") | Existing underground watermain runs on the east side of the roadway has been relocated in Pre-stage work and should not be in conflict with work to be completed in Stage 1A. | **Village of Sugar Grove** | Contractor will have as-built survey from previously relocated pipe. Potential crossing will be marked and monitored in field. Fire hydrants and valve vaults will be clearly marked with lathe or other visible marking. |
| Sta. 10+00 to Sta. 20+50, 52' LT. | Underground gas main (2") | Existing gas main is in conflict with the proposed roadway widening and ditch grading. The gas main will be relocated to the east side of the roadway and should not be in conflict with work. | **Northern Illinois Gas** | Contractor shall not excavate around gas main. |
| Sta. 10+50 to Sta. 28+50, 27' Rt. | Underground Communication Cable (96CT Armored Fiber 48SM) | Existing fiber is running in the easterly half of roadway within the County ROW. The cable is expected to be relocated because it will be in conflict with the relocated water main and ditch | **Midwest Fiber Networks** | Contractor to have JULIE locate and then shall "pot" hole to verify alignment of cable in this Stage. Utility Exploration pay item added to plans. |

| | | | | |
|---|---|---|---|---|
| | | work. Because the cable will be lowered prior to construction this area this will not be in conflict with the proposed improvements. | | |

**STAGE 2**

| STAGE / LOCATION | TYPE | DESCRIPTION | OWNER | ACTION |
|---|---|---|---|---|
| Sta. 17+00 to Sta. 28+50, 18'-40' Lt. | Underground Communication Cable within 6-4" PVC ducts (3 - Copper cables and 2-fiber optic cables), Lt. | Existing duct is running adjacent to pavement widening and proposed ditch work. Because the duct will lowered in this area this will not be in conflict with the proposed improvements. | **AT&T Legal Mandate** | Contractor to have JULIE locate and then shall "pot" hole to verify alignment of cable along the widening. Utility Exploration pay item added to plans. |
| Sta. 16+63 to Sta. 22+00, 28'-48' LT.<br><br>Sta. 22+10 to Sta. 28+50, 29'-30' Rt. | Overhead Communication (Fiber) | Existing overhead communication fiber lines shared with ComEd poles will be relocated with ComEd to 1' from proposed ROW on easterly side of roadway and should not be in conflict with work. | **Wide Open West** | Contractor shall not excavate around power poles and shall store equipment away from the overhead lines. |

The following contact information is what was used during the preparation of the plans as provided by the owner of the facility.

| Agency/Company Responsible to Resolve Conflict | Name of contact | Address | Phone | e-mail address |
|---|---|---|---|---|
| **Commonwealth Edison** | Rick Seidel | 1 Lincoln Centre, Oakbrook Terrace, IL 60181 | 630-229-5138 | Richard.Seidel@ComEd.com |
| **AT&T Legal Mandate** | Bruce Robbins | 1000 Commerce Dr., Floor 1, Oak Brook, IL 60523 | 630-573-6471 | br1831@att.com |
| **Northern Illinois Gas** | Bruce Koppang | 1844 Ferry Rd. Naperville, IL 60563 | 630-388-3046 | bkoppan@aglresources.com |
| **Fox Metro Water Reclamation District** | Michael Frankino | 1135 S. Lake St., Montgomery, IL 60538 | 630-301-6805 | MFrankino@foxmetro.dst.il.us |
| **Mediacom** | Patrick McGraw | | 815-597-5103 | pmcgraw@mediacomcc.com |
| **Wide Open West** | Chris Naylor | 1674 Frontenac Road, Naperville, IL 60563 | 630-930-8324 | chris.naylor@wowinc.com |
| **Midwest Fiber Networks** | Cory Schmuki | 6070 North Flint Road, Glendale, WI 53209 | (414) 459-3561 | cschmuki@midwestfibernetworks.com |

The above represents the best information available to the Department and is included for the convenience of the bidder. The days required for conflict resolution should be taken into account in the bid as this information has also been factored into the timeline identified for the project when

setting the completion date. The applicable portions of the Standard Specifications for Road and Bridge Construction shall apply.

Estimated duration of time provided in the action column for the first conflicts identified will begin on the date of the executed contract regardless of the status of the utility relocations. The responsible agencies will be working toward resolving subsequent conflicts in conjunction with contractor activities in the number of days noted.

The estimated relocation dates must be part of the progress schedule submitted by the contractor. A utility kickoff meeting will be scheduled between the Department, the Department's contractor and the utility companies. The Department's contractor is responsible for contacting J.U.L.I.E. prior to any and all excavation work.

**TRAFFIC CONTROL PLAN**
Effective: September 30, 1985
Revised: January 1, 2007

Traffic Control shall be according to the applicable sections of the Standard Specifications, the Supplemental Specifications, the "Illinois Manual on Uniform Traffic Control Devices for Streets and Highways", any special details and Highway Standards contained in the plans, and the Special Provisions contained herein.

Special attention is called to Article 107.09 of the Standard Specifications and the following Highway Standards, Details, Quality Standard for Work Zone Traffic Control Devices, Recurring Special Provisions and Special Provisions contained herein, relating to traffic control.

The Contractor shall contact the District One Bureau of Traffic at least 72 hours in advance of beginning work.

STANDARDS:

| | | | | | |
|---|---|---|---|---|---|
| 701006-05 | 701011-04 | 701201-04 | 701301-04 | 701311-03 | 701326-04 |
| 701901-05 | 704001-08 | 782006 | | | |

DETAILS:

a. Traffic Control and Protection for Side Roads, Intersections, and Driveways (TC-10)
b. District One Typical Pavement Markings (TC-13)
c. Detour Signing For Closing State Highways (TC-21)
d. Driveway Entrance Sign (TC-26)

SPECIAL PROVISIONS:

a. Maintenance of Roadways
b. Public Convenience and Safety (District 1)
c. Traffic Control and Protection (Arterials)
d. Changeable Message Sign
e. Temporary Information Signing
f. Work Zone Traffic Control Surveillance (LRS 3)

**TRAFFIC CONTROL AND PROTECTION (ARTERIALS)**

Effective: February 1, 1996
Revised: March 1, 2011

Specific traffic control plan details and Special Provisions have been prepared for this contract. This work shall include all labor, materials, transportation, handling and incidental work necessary to furnish, install, maintain and remove all traffic control devices required as indicated in the plans and as approved by the Engineer.

When traffic is to be directed over a detour route, the Contractor shall furnish, erect, maintain and remove all applicable traffic control devices along the detour route according to the details shown in the plans.

Method of Measurement: All traffic control (except Traffic Control and Protection (Expressways) and temporary pavement markings) indicated on the traffic control plan details and specified in the Special Provisions will be measured for payment on a lump sum basis.

Basis of Payment: All traffic control and protection will be paid for at the contract lump sum price for TRAFFIC CONTROL AND PROTECTION (SPECIAL).

Temporary pavement markings will be paid for separately unless shown on a Standard.

**IDOT TRAINING PROGRAM GRADUATE ON-THE-JOB TRAINING SPECIAL PROVISION (TPG)**

Effective: August 1, 2012 Revised: February 1, 2014

In addition to the Contractor's equal employment opportunity affirmative action efforts undertaken as elsewhere required by this Contract, the Contractor is encouraged to participate in the incentive program to provide additional on-the-job training to certified graduates of IDOT funded pre-apprenticeship training programs outlined by this Special Provision.

It is the policy of IDOT to fund IDOT pre-apprenticeship training programs throughout Illinois to provide training and skill-improvement opportunities to assure the increased participation of minority groups, disadvantaged persons and women in all phases of the highway construction industry. The intent of this IDOT Training Program Graduate (TPG) Special Provision is to place certified graduates of these IDOT funded pre-apprentice training programs on IDOT project sites when feasible, and provide the graduates with meaningful on-the-job training intended to lead to journey-level employment. IDOT and its sub-recipients, in carrying out the responsibilities of a state contract, shall determine which construction contracts shall include "Training Program Graduate Special Provisions." To benefit from the incentives to encourage the participation in the additional on-the-job training under this Training Program Graduate Special Provision, the Contractor shall make every reasonable effort to employ certified graduates of IDOT funded Pre-apprenticeship Training Programs to the extent such persons are available within a reasonable recruitment area.

Participation pursuant to IDOT's requirements by the Contractor or subcontractor in this Training Program Graduate (TPG) Special Provision entitles the Contractor or subcontractor to be reimbursed at $15.00 per hour for training given a certified TPG on this contract. As approved by the Department, reimbursement will be made for training persons as specified herein. This reimbursement will be made even though the Contractor or subcontractor may receive additional training program funds from other sources for other trainees, provided such other source does not specifically prohibit the Contractor or subcontractor from receiving other reimbursement. For purposes of this Special Provision the Contractor is not relieved of requirements under applicable federal law, the Illinois Prevailing Wage Act, and is not eligible for other training fund reimbursements in addition to the Training Program Graduate (TPG) Special Provision reimbursement.

No payment shall be made to the Contractor if the Contractor or subcontractor fails to provide the required training. It is normally expected that a TPG will begin training on the project as soon as feasible after start of work utilizing the skill involved and remain on the project through completion of the contract, so long as training opportunities exist in his work classification or until he has completed his training program. Should the TPG's employment end in advance of the completion of the contract, the Contractor shall promptly notify the designated IDOT staff member under this Special Provision that the TPG's involvement in the contract has ended and supply a written report of the reason for the end of the involvement, the hours completed by the TPG under 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 TPG.

The Contractor will provide for the maintenance of records and furnish periodic reports documenting its performance under this Special Provision.

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 certified TRAINEES TRAINING PROGRAM GRADUATE. The estimated total number of hours, unit price and total price have been included in the schedule of prices.

The Contractor shall provide training opportunities aimed at developing full journey worker in the type of trade or job classification involved. The initial number of TPGs for which the incentive is available under this contract is . During the course of performance of the Contract the Contractor may seek approval from the Department for additional incentive eligible TPGs. In the event the Contractor subcontracts a portion of the contract work, it shall determine how many, if any, of the TPGs 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 insure that this Training Program Graduate Special Provision is made applicable to such subcontract if the TPGs are to be trained by a subcontractor and that the incentive payment is passed on to each subcontractor.

For the Contractor to meet the obligations for participation in this TPG incentive program under this Special Provision, the Department has contracted with several entities to provide screening, tutoring and pre-training to individuals interested in working in the applicable construction classification and has certified those students who have successfully completed the program and are eligible to be TPGs. A designated IDOT staff member, the Director of the Office of Business and Workforce Diversity (OBWD), will be responsible for providing assistance and referrals to the Contractor for the applicable TPGs. For this contract, the Director of OBWD is designated as the responsible IDOT staff member to provide the assistance and referral services related to the placement for this Special Provision. For purposes of this Contract, contacting the Director of OBWD and interviewing each candidate he/she recommends constitutes reasonable recruitment.

Prior to commencing construction, the Contractor shall submit to the Department for approval the TPGs to be trained in each selected classification. Furthermore, the Contractor shall specify the starting time for training in each of the classifications. No employee shall be employed as a TPG in any classification in which he/she has successfully completed a training course leading to journeyman status or in which he/she has been employed as a journeyman. Notwithstanding the on-the-job training purpose of this TPG Special Provision, some offsite training is permissible as long as the offsite training is an integral part of the work of the contract and does not comprise a significant part of the overall training.

Training and upgrading of TPGs of IDOT pre-apprentice training programs is intended to move said TPGs toward journeyman status and is the primary objective of this Training Program Graduate Special Provision. Accordingly, the Contractor shall make every effort to enroll TPGs by recruitment through the IDOT funded TPG programs to the extent such persons are available within a reasonable area of recruitment. The Contractor will be responsible for demonstrating the steps that it has taken in pursuance thereof, prior to a determination as to whether the Contractor is in compliance and entitled to the Training Program Graduate Special Provision $15.00 an hour incentive.

The Contractor or subcontractor shall provide each TPG with a certificate showing the type and length of training satisfactorily completed.

State of Illinois
Department of Transportation
Bureau of Local Roads and Streets

# SPECIAL PROVISION FOR INSURANCE

Effective: February 1, 2007
Revised: August 1, 2007

All references to Sections or Articles in this specification shall be construed to mean specific Section or Article of the Standard Specifications for Road and Bridge Construction, adopted by the Department of Transportation.

The Contractor shall name the following entities as additional insured under the Contractor's general liability insurance policy in accordance with Article 107.27:

KANE COUNTY

The entities listed above and their officers, employees, and agents shall be indemnified and held harmless in accordance with Article 107.26.

**BITUMINOUS MATERIALS COST ADJUSTMENTS (BDE) (RETURN FORM WITH BID)**

Effective: November 2, 2006
Revised: July 1, 2015

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 on the attached form whether or not this special provision will be part of the contract and submit the completed form with his/her bid. Failure to submit the form, or failure to fill out the form completely, shall make this contract exempt of bituminous materials cost adjustments.

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, tons = A x D x ($G_{mb}$ x 46.8) / 2000. For HMA mixtures measured in square meters: Q, metric tons = A x D x ($G_{mb}$ x 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, tons = V x 8.33 lb/gal x SG / 2000
For bituminous materials measured in liters: Q, metric tons = V x 1.0 kg/L x 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:

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.

Return With Bid

**ILLINOIS DEPARTMENT OF TRANSPORTATION**

**OPTION FOR**
**BITUMINOUS MATERIALS COST ADJUSTMENTS**

The bidder shall submit this completed form with his/her bid. Failure to submit the form, or failure to fill out the form completely, shall make this contract exempt of bituminous materials cost adjustments. After award, this form, when submitted, shall become part of the contract.

**Contract No.:** _____

**Company Name:**_____

**Contractor's Option:**

Is your company opting to include this special provision as part of the contract?

Yes ☐ No ☐

**Signature:** _____ **Date:** _____

80173

**BUTT JOINTS (BDE)**

Effective: July 1, 2016

Add the following to Article 406.08 of the Standard Specifications.

"(c) Temporary Plastic Ramps. Temporary plastic ramps shall be made of high density polyethylene meeting the properties listed below. Temporary plastic ramps shall only be used on roadways with permanent posted speeds of 55 mph or less. The ramps shall have a minimum taper rate of 1:30 (V:H). The leading edge of the plastic ramp shall have a maximum thickness of 1/4 in. (6 mm) and the trailing edge shall match the height of the adjacent pavement ± 1/4 in. (± 6 mm).

The ramp will be accepted by certification. The Contractor shall furnish a certification from the manufacturer stating the temporary plastic ramp meets the following requirements.

| Physical Property | Test Method | Requirement |
|---|---|---|
| Melt Index | ASTM D 1238 | 8.2 g/10 minutes |
| Density | ASTM D 1505 | 0.965 g/cc |
| Tensile Strength @ Break | ASTM D 638 | 2223 psi (15 MPa) |
| Tensile Strength @ Yield | ASTM D 638 | 4110 psi (28 MPa) |
| Elongation @ Yield [1/], percent | ASTM D 638 | 7.3 min. |
| Durometer Hardness, Shore D | ASTM D 2240 | 65 |
| Heat Deflection Temperature, 66 psi | ASTM D 648 | 176 ºF (80 ºC) |
| Low Temperature Brittleness, $F_{50}$ | ASTM D 746 | <-105 ºF (<-76 ºC) |

1/ Crosshead speed -2 in./minute

The temporary plastic ramps shall be installed according to the manufacturer's specifications and fastened with anchors meeting the manufacturer's recommendations. Temporary plastic ramps that fail to stay in place or create a traffic hazard shall be replaced immediately with temporary HMA ramps at the Contractor's expense."

80366

**COARSE AGGREGATE QUALITY (BDE)**

Effective: July 1, 2015

Revise Article 1004.01(b) of the Standard Specifications to read:

"(b) Quality. The coarse aggregate shall be according to the quality standards listed in the following table.

| COARSE AGGREGATE QUALITY | | | | |
|---|---|---|---|---|
| QUALITY TEST | CLASS | | | |
| | A | B | C | D |
| $Na_2SO_4$ Soundness 5 Cycle, ITP 104 [1/], % Loss max. | 15 | 15 | 20 | 25 [2/] |
| Los Angeles Abrasion, ITP 96 [11/], % Loss max. | 40 [3/] | 40 [4/] | 40 [5/] | 45 |
| Minus No. 200 (75 µm) Sieve Material, ITP 11 | 1.0 [6/] | --- | 2.5 [7/] | --- |
| Deleterious Materials [10/] | | | | |
| Shale, % max. | 1.0 | 2.0 | 4.0 [8/] | --- |
| Clay Lumps, % max. | 0.25 | 0.5 | 0.5 [8/] | --- |
| Coal & Lignite, % max. | 0.25 | --- | --- | --- |
| Soft & Unsound Fragments, % max. | 4.0 | 6.0 | 8.0 [8/] | --- |
| Other Deleterious, % max. | 4.0 [9/] | 2.0 | 2.0 [8/] | --- |
| Total Deleterious, % max. | 5.0 | 6.0 | 10.0 [8/] | --- |
| Oil-Stained Aggregate [10/], % max | 5.0 | --- | --- | |

1/ Does not apply to crushed concrete.

2/ For aggregate surface course and aggregate shoulders, the maximum percent loss shall be 30.

3/ For portland cement concrete, the maximum percent loss shall be 45.

4/ Does not apply to crushed slag or crushed steel slag.

5/ For hot-mix asphalt (HMA) binder mixtures, except when used as surface course, the maximum percent loss shall be 45.

6/ For crushed aggregate, if the material finer than the No. 200 (75 µm) sieve consists of the dust from fracture, essentially free from clay or silt, this percentage may be increased to 2.5.

7/ Does not apply to aggregates for HMA binder mixtures.

8/ Does not apply to Class A seal and cover coats.

9/ Includes deleterious chert. In gravel and crushed gravel aggregate, deleterious chert shall be the lightweight fraction separated in a 2.35 heavy media separation. In crushed stone aggregate, deleterious chert shall be the lightweight fraction separated in a 2.55 heavy media separation. Tests shall be run according to ITP 113.

10/ Test shall be run according to ITP 203.

11/ Does not apply to crushed slag.

All varieties of chert contained in gravel coarse aggregate for portland cement concrete, whether crushed or uncrushed, pure or impure, and irrespective of color, will be classed as chert and shall not be present in the total aggregate in excess of 25 percent by weight (mass).

Aggregates used in Class BS concrete (except when poured on subgrade), Class PS concrete, and Class PC concrete (bridge superstructure products only, excluding the approach slab) shall contain no more than two percent by weight (mass) of deleterious materials. Deleterious materials shall include substances whose disintegration is accompanied by an increase in volume which may cause spalling of the concrete."

80360

**CONSTRUCTION AIR QUALITY – DIESEL RETROFIT (BDE)**

Effective: June 1, 2010
Revised: November 1, 2014

The reduction of emissions of particulate matter (PM) for off-road equipment shall be accomplished by installing retrofit emission control devices. The term "equipment" refers to diesel fuel powered devices rated at 50 hp and above, to be used on the jobsite in excess of seven calendar days over the course of the construction period on the jobsite (including rental equipment).

Contractor and subcontractor diesel powered off-road equipment assigned to the contract shall be retrofitted using the phased in approach shown below. Equipment that is of a model year older than the year given for that equipment's respective horsepower range shall be retrofitted:

| Effective Dates | Horsepower Range | Model Year |
|---|---|---|
| | | |
| June 1, 2010 [1/] | 600-749 | 2002 |
| | 750 and up | 2006 |
| | | |
| June 1, 2011 [2/] | 100-299 | 2003 |
| | 300-599 | 2001 |
| | 600-749 | 2002 |
| | 750 and up | 2006 |
| | | |
| June 1, 2012 [2/] | 50-99 | 2004 |
| | 100-299 | 2003 |
| | 300-599 | 2001 |
| | 600-749 | 2002 |
| | 750 and up | 2006 |

1/ Effective dates apply to Contractor diesel powered off-road equipment assigned to the contract.

2/ Effective dates apply to Contractor and subcontractor diesel powered off-road equipment assigned to the contract.

The retrofit emission control devices shall achieve a minimum PM emission reduction of 50 percent and shall be:

a) Included on the U.S. Environmental Protection Agency (USEPA) *Verified Retrofit Technology List* (http://www.epa.gov/cleandiesel/verification/verif-list.htm), or verified by the California Air Resources Board (CARB) (http://www.arb.ca.gov/diesel/verdev/vt/cvt.htm); or

b) Retrofitted with a non-verified diesel retrofit emission control device if verified retrofit emission control devices are not available for equipment proposed to be used on the project, and if the Contractor has obtained a performance certification from the retrofit

device manufacturer that the emission control device provides a minimum PM emission reduction of 50 percent.

Note: Large cranes (Crawler mounted cranes) which are responsible for critical lift operations are exempt from installing retrofit emission control devices if such devices adversely affect equipment operation.

Diesel powered off-road equipment with engine ratings of 50 hp and above, which are unable to be retrofitted with verified emission control devices or if performance certifications are not available which will achieve a minimum 50 percent PM reduction, may be granted a waiver by the Department if documentation is provided showing good faith efforts were made by the Contractor to retrofit the equipment.

Construction shall not proceed until the Contractor submits a certified list of the diesel powered off-road equipment that will be used, and as necessary, retrofitted with emission control devices. The list(s) shall include (1) the equipment number, type, make, Contractor/rental company name; and (2) the emission control devices make, model, USEPA or CARB verification number, or performance certification from the retrofit device manufacturer. Equipment reported as fitted with emissions control devices shall be made available to the Engineer for visual inspection of the device installation, prior to being used on the jobsite.

The Contractor shall submit an updated list of retrofitted off-road construction equipment as retrofitted equipment changes or comes on to the jobsite. The addition or deletion of any diesel powered equipment shall be included on the updated list.

If any diesel powered off-road equipment is found to be in non-compliance with any portion of this special provision, the Engineer will issue the Contractor a diesel retrofit deficiency deduction.

Any costs associated with retrofitting any diesel powered off-road equipment with emission control devices 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. The Contractor's compliance with this notice and any associated regulations shall not be grounds for a claim.

**Diesel Retrofit Deficiency Deduction**

When the Engineer determines that a diesel retrofit deficiency exists, a daily monetary deduction will be imposed for each calendar day or fraction thereof the deficiency continues to exist. The calendar day(s) will begin when the time period for correction is exceeded and end with the Engineer's written acceptance of the correction. The daily monetary deduction will be $1,000.00 for each deficiency identified.

The deficiency will be based on lack of diesel retrofit emissions control.

If a Contractor accumulates three diesel retrofit deficiency deductions for the same piece of equipment in a contract period, the Contractor will be shutdown until the deficiency is corrected.

Such a shutdown will not be grounds for any extension of the contract time, waiver of penalties, or be grounds for any claim.

80261

**DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION (BDE)**

Effective: September 1, 2000
Revised: January 2, 2016

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 that 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 that 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 that, in the absence of unlawful discrimination, and in an arena of fair and open competition, DBE companies can be expected to perform _____% 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 that enough DBE participation has been obtained to meet the goal or,

(b) The bidder documents that 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 required prior to the award of the contract and the failure of the low bidder to comply will render the bid not responsive.

In order to assure the timely award of the contract, the low bidder shall submit:

(a) The bidder shall submit a Disadvantaged Business Utilization Plan on completed Department forms SBE 2025 and 2026.

(1) The final Utilization Plan must be submitted within five calendar days after the date of the letting.

(2) To meet the five day requirement, the bidder may send the Utilization Plan electronically by scanning and sending to **DOT.DBE.UP@illinois.gov** or faxing to (217) 785-1524. The subject line must include the bid Item Number and the Letting date. The Utilization Plan should be sent as one .pdf file, rather than multiple files and emails for the same Item Number. It is the responsibility of the bidder to obtain confirmation of email or fax delivery.

Alternatively, the Utilization Plan may be sent by certified mail or delivery service within the five calendar day period. If a question arises concerning the mailing date of a Utilization Plan, the mailing date will be established by the U.S. Postal Service postmark on the original certified mail receipt from the U.S. Postal Service or the receipt issued by a delivery service. It is the responsibility of the bidder to ensure the postmark or receipt date is affixed within the five days if the bidder intends to rely upon mailing or delivery to satisfy the submission day requirement. The Utilization Plan is to be submitted to:

Illinois Department of Transportation
Bureau of Small Business Enterprises
Contract Compliance Section
2300 South Dirksen Parkway, Room 319
Springfield, Illinois 62764

The Department will not accept a Utilization Plan if it does not meet the five day submittal requirement and the bid will be declared not responsive. In the event the bid is declared not responsive due to a failure to submit a Utilization Plan or failure to comply with the bidding procedures set forth herein, 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. The Department reserves the right to invite any other bidder to submit a Utilization Plan at any time for award consideration or to extend the time for award.

(b) The Utilization Plan shall indicate that the bidder either has obtained sufficient DBE participation commitments to meet the contract goal or has not obtained enough DBE participation commitments in spite of a good faith effort to meet the goal. The Utilization Plan shall further provide the name, telephone number, and telefax number of a responsible official of the bidder designated for purposes of notification of Utilization Plan approval or disapproval under the procedures of this Special Provision.

(c) The Utilization Plan shall include a DBE Participation Commitment Statement, Department form SBE 2025, for each DBE proposed for the performance of work to achieve the contract goal. For bidding purposes, submission of the completed SBE 2025 forms, signed by the DBEs and scanned or faxed to the bidder will be acceptable as long as the original is available and provided upon request. All elements of information indicated on the said form shall be provided, including but not limited to the following:

(1) The names and addresses of DBE firms that will participate in the contract;

(2) A description, including pay item numbers, of the work each DBE will perform;

(3) The dollar amount of the participation of each DBE firm participating. The dollar amount of participation for identified work shall specifically state the quantity, unit price, and total subcontract price for the work to be completed by the DBE. If partial pay items are to be performed by the DBE, indicate the portion of each item, a unit price where appropriate and the subcontract price amount;

(4) DBE Participation Commitment Statements, form SBE 2025, signed by the bidder and each participating DBE firm documenting the commitment to use the DBE subcontractors whose participation is submitted to meet the contract goal;

(5) If the bidder is a joint venture comprised of DBE companies and non-DBE companies, the Utilization Plan must also include a clear identification of the portion of the work to be performed by the DBE partner(s); and,

(6) If the contract goal is not met, evidence of good faith efforts; 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.

GOOD FAITH EFFORT PROCEDURES. The contract will not be awarded until the Utilization Plan submitted by the apparent successful bidder is approved. All information submitted by the bidder must be complete, accurate and adequately document that enough DBE participation has been obtained or document that 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. The Utilization Plan will not be approved by the Department if the Utilization Plan does not document sufficient DBE participation to meet the contract goal unless the apparent successful bidder documented in the Utilization Plan that it made a good faith effort to meet the goal. This means that 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 that 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 prime 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 subsection (c)(6) of 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 that the apparent successful 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 that it is otherwise eligible for award. If the Department determines that 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 shall include a statement of reasons for the 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 in order to cure the deficiency.

(c) The bidder may request administrative reconsideration of a determination adverse to the bidder within the five working days after the receipt of the notification date of the determination by delivering the request to the Department of Transportation, Bureau of Small Business Enterprises, Contract Compliance Section, 2300 South Dirksen Parkway, Room 319, Springfield, Illinois 62764 (Telefax: (217) 785-1524). Deposit of the request in the United States mail on or before the fifth business day shall not be deemed delivery. The determination shall become final if a request is not made and delivered. 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 forwarded to the Department's Reconsideration Officer. The Reconsideration Officer will extend an opportunity to the bidder to meet in person in order 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 consideration, 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 prime 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 is 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 of 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 submitted to the Department of Transportation, Bureau of Small Business Enterprises, Contract Compliance Section, 2300 South Dirksen Parkway, Room 319, Springfield, Illinois 62764. Telephone number (217) 785-4611. Telefax number (217) 785-1524.

(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, than a new Request for Approval of Subcontractor shall not be required. However, the Contractor must document efforts to assure that 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 DBE subcontracts to IDOT 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) That 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) That the DBE is aware that 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) That 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 prime contractor;

(3) The listed DBE subcontractor fails or refuses to meet the prime 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) You have determined that the listed DBE subcontractor is not a responsible contractor;

(7) The listed DBE subcontractor voluntarily withdraws from the projects and provides to you written notice 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 contractor 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 prime Contractor seeks to terminate a DBE it relied upon to obtain the contract so that the prime Contractor can self-perform the work for which the DBE contractor was engaged or so that the prime 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 shall provide a written determination to the Contractor stating whether or not good faith efforts have been demonstrated.

(f) PAYMENT RECORDS. The Contractor shall maintain a record of payments for work performed to the DBE participants. The records shall be made available to the Department for inspection upon request. 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 thirty 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 that 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 my 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.

**ENGINEER'S FIELD OFFICE (BDE)**

Effective: April 1, 2016

Revise the fifth sentence of the first paragraph of Article 670.07 of the Standard Specifications to read:

"This price shall include all utility costs and shall reflect the salvage value of the building or buildings, equipment, and furniture which remain the property of the Contractor after release by the Engineer, except the Department will pay that portion of the monthly long distance, monthly local telephone, and online data usage that, when combined, exceed $250."

80363

**EQUAL EMPLOYMENT OPPORTUNITY (BDE)**

Effective: April 1, 2015

FEDERAL AID CONTRACTS. Revise the following section of Check Sheet #1 of the Recurring Special Provisions to read:

"EQUAL EMPLOYMENT OPPORTUNITY

In the event of the Contractor's noncompliance with the provisions of this Equal Employment Opportunity Clause, the Illinois Human Rights Act, or the Illinois Department of Human Rights Rules and Regulations, the Contractor may be declared ineligible for future contracts or subcontracts with the State of Illinois or any of its political sub-divisions or municipal corporations, and the contract may be cancelled or voided in whole or in part, and such other sanctions or penalties may be imposed or remedies invoked as provided by statute or regulation.

During the performance of this Contract, the Contractor agrees as follows:

(1) That it will not discriminate against any employee or applicant for employment because of race, color, religion, sex, sexual orientation, marital status, order of protection status, national origin or ancestry, citizenship status, age, physical or mental disability unrelated to ability, military status, or an unfavorable discharge from military service; and further that it will examine all job classifications to determine if minority persons or women are underutilized and will take appropriate affirmative action to rectify any such underutilization.

(2) That, if it hires additional employees in order to perform this contract or any portion hereof, it will determine the availability (according to the Illinois Department of Human Rights Rules and Regulations) of minorities and women in the area(s) from which it may reasonably recruit and it will hire for each job classification for which employees are hired in such a way that minorities and women are not underutilized.

(3) That, in all solicitations or advertisements for employees placed by it or on its behalf, it will state that all applicants will be afforded equal opportunity without discrimination because of race, color, religion, sex, sexual orientation, marital status, order of protection status, national origin or ancestry, citizenship status, age, physical or mental disability unrelated to ability, military status or an unfavorable discharge from military service.

(4) That it will send to each labor organization or representative of workers with which it has or is bound by a collective bargaining or other agreement or understanding, a notice advising such labor organization or representative of the Contractor's obligations under the Illinois Human Rights Act and the Illinois Department of Human Rights Rules and Regulations. If any labor organization or representative fails or refuses to cooperate with the Contractor in its efforts to comply with such Act and Rules and Regulations, the

Contractor will promptly so notify the Illinois Department of Human Rights and IDOT and will recruit employees from other sources when necessary to fulfill its obligations thereunder.

(5) That it will submit reports as required by the Illinois Department of Human Rights Rules and Regulations, furnish all relevant information as may from time to time be requested by the Illinois Department of Human Rights or IDOT, and in all respects comply with the Illinois Human Rights Act and the Illinois Department of Human Rights Rules and Regulations.

(6) That it will permit access to all relevant books, records, accounts, and work sites by personnel of IDOT and the Illinois Department of Human Rights for purposes of investigation to ascertain compliance with the Illinois Human Rights Act and the Illinois Department of Human Rights Rules and Regulations.

(7) That it will include verbatim or by reference the provisions of this clause in every subcontract it awards under which any portion of the contract obligations are undertaken or assumed, so that the provisions will be binding upon the subcontractor. In the same manner as with other provisions of this contract, the Contractor will be liable for compliance with applicable provisions of this clause by subcontractors; and further it will promptly notify IDOT and the Illinois Department of Human Rights in the event any subcontractor fails or refuses to comply with these provisions. In addition, the Contractor will not utilize any subcontractor declared by the Illinois Human Rights Commission to be ineligible for contracts or subcontracts with the State of Illinois or any of its political subdivisions or municipal corporations."

STATE CONTRACTS. Revise Section II of Check Sheet #5 of the Recurring Special Provisions to read:

"II. EQUAL EMPLOYMENT OPPORTUNITY

In the event of the Contractor's noncompliance with the provisions of this Equal Employment Opportunity Clause, the Illinois Human Rights Act or the Illinois Department of Human Rights Rules and Regulations, the Contractor may be declared ineligible for future contracts or subcontracts with the State of Illinois or any of its political sub-divisions or municipal corporations, and the contract may be cancelled or voided in whole or in part, and such other sanctions or penalties may be imposed or remedies invoked as provided by statute or regulation.

During the performance of this Contract, the Contractor agrees as follows:

1. That it will not discriminate against any employee or applicant for employment because of race, color, religion, sex, sexual orientation, marital status, order of protection status, national origin or ancestry, citizenship status, age, physical or mental disability unrelated to ability, military status, or an unfavorable discharge from military service; and further

that it will examine all job classifications to determine if minority persons or women are underutilized and will take appropriate affirmative action to rectify any such underutilization.

2. That, if it hires additional employees in order to perform this contract or any portion hereof, it will determine the availability (according to the Illinois Department of Human Rights Rules and Regulations) of minorities and women in the area(s) from which it may reasonably recruit and it will hire for each job classification for which employees are hired in such a way that minorities and women are not underutilized.

3. That, in all solicitations or advertisements for employees placed by it or on its behalf, it will state that all applicants will be afforded equal opportunity without discrimination because of race, color, religion, sex, sexual orientation, marital status, order of protection status, national origin or ancestry, citizenship status, age, physical or mental disability unrelated to ability, military status, or an unfavorable discharge from military service.

4. That it will send to each labor organization or representative of workers with which it has or is bound by a collective bargaining or other agreement or understanding, a notice advising such labor organization or representative of the Contractor's obligations under the Illinois Human Rights Act and the Illinois Department of Human Rights Rules and Regulations. If any labor organization or representative fails or refuses to cooperate with the Contractor in its efforts to comply with such Act and Rules and Regulations, the Contractor will promptly so notify the Illinois Department of Human Rights and IDOT and will recruit employees from other sources when necessary to fulfill its obligations thereunder.

5. That it will submit reports as required by the Illinois Department of Human Rights Rules and Regulations, furnish all relevant information as may from time to time be requested by the Illinois Department of Human Rights or IDOT, and in all respects comply with the Illinois Human Rights Act and the Illinois Department of Human Rights Rules and Regulations.

6. That it will permit access to all relevant books, records, accounts and work sites by personnel of IDOT and the Illinois Department of Human Rights for purposes of investigation to ascertain compliance with the Illinois Human Rights Act and the Illinois Department of Human Rights Rules and Regulations.

7. That it will include verbatim or by reference the provisions of this clause in every subcontract it awards under which any portion of the contract obligations are undertaken or assumed, so that the provisions will be binding upon the subcontractor. In the same manner as with other provisions of this contract, the Contractor will be liable for compliance with applicable provisions of this clause by subcontractors; and further it will promptly notify IDOT and the Illinois Department of Human Rights in the event any subcontractor fails or refuses to comply with these provisions. In addition, the Contractor will not utilize any subcontractor declared by the Illinois Human Rights

Commission to be ineligible for contracts or subcontracts with the State of Illinois or any of its political subdivisions or municipal corporations."

80358

**ERRATA FOR THE 2016 STANDARD SPECIFICATIONS (BDE)**

Effective: April 1, 2016

Page 84 Article 204.02. In the seventh line of the first paragraph change "AASHTO T 99 (Method C)" to "Illinois Modified AASHTO T 99 (Method C)".

Page 90 Article 205.06. In the first sentence of the third paragraph change "AASHTO T 99 (Method C)" to "Illinois Modified AASHTO T 99 (Method C)".

Page 91 Article 205.06. In the first sentence of the fourth paragraph change "AASHTO T 99 (Method C)" to "Illinois Modified AASHTO T 99 (Method C)", and in the second sentence change "AASHTO T 224" to "Illinois Modified AASHTO T 99 (Annex A1)".

Page 91 Article 205.06. In the second line of the fifth paragraph change "AASHTO T 191" to "Illinois Modified AASHTO T 191".

Page 91 Article 205.06. In the sixth line of the eighth paragraph change "AASHTO T 99 (Method C)" to "Illinois Modified AASHTO T 99 (Method C)".

Page 148 Article 302.09. In the second sentence of the fifth paragraph change "AASHTO T 191" to "Illinois Modified AASHTO T 191", and in the third sentence change "AASHTO T 99" to "Illinois Modified AASHTO T 99".

Page 152 Article 310.09. In the second sentence of the second paragraph change "AASHTO T 191" to "Illinois Modified AASHTO T 191", and in the third sentence change "AASHTO T 99" to "Illinois Modified AASHTO T 99".

Page 155 Article 311.05(a). In the first sentence of the fifth paragraph change "AASHTO T 99 (Method C)" to "Illinois Modified AASHTO T 99 (Method C)", and in the second sentence change "AASHTO T 224" to "Illinois Modified AASHTO T 99 (Annex A1)".

Page 155 Article 311.05(a). In the second line of the sixth paragraph change "AASHTO T 191" to "Illinois Modified AASHTO T 191".

Page 163 Article 351.05(a). In the second sentence of the fifth paragraph change "AASHTO T 99 (Method C)" to "Illinois Modified AASHTO T 99 (Method C)", and in the third sentence change "AASHTO T 224" to "Illinois Modified AASHTO T 99 (Annex A1)".

Page 163 Article 351.05(a). In the second line of the sixth paragraph change "AASHTO T 191" to "Illinois Modified AASHTO T 191".

Page 169 Article 352.11. In the second sentence of the fourth paragraph change "AASHTO T 191" to "Illinois Modified AASHTO T 191", and in the third sentence change "AASHTO T 134 (Method B)" to "Illinois Modified AASHTO T 134 (Method B)".

Page 169 Article 352.12. In the first sentence of the first paragraph change "AASHTO T 22" to "Illinois Modified AASHTO T 22", and in the second sentence change "AASHTO T 134 (Method B)" to "Illinois Modified AASHTO T 134 (Method B)".

Page 196 Article 406.07(a). After the footnotes in Table 1 - Minimum Roller Requirements for HMA add the following:

"EQUIPMENT DEFINITION

$V_s$ - Vibratory roller, static mode, minimum 125 lb/in. (2.2 kg/mm) of roller width. Maximum speed = 3 mph (5 km/h) or 264 ft/min (80 m/min). If the vibratory roller does not eliminate roller marks, its use shall be discontinued and a tandem roller, adequately ballasted to remove roller marks, shall be used.

$V_D$ - Vibratory roller, dynamic mode, operated at a speed to produce not less than 10 impacts/ft (30 impacts/m).

P - Pneumatic-tired roller, max. speed 3 1/2 mph (5.5 km/h) or 308 ft/min (92 m/min). The pneumatic-tired roller shall have a minimum tire pressure of 80 psi (550 kPa) and shall be equipped with heat retention shields. The self-propelled pneumatic-tired roller shall develop a compression of not less than 300 lb (53 N) nor more than 500 lb (88 N) per in. (mm) of width of the tire tread in contact with the HMA surface.

$T_B$ - Tandem roller for breakdown rolling, 8 to 12 tons (7 to 11 metric tons), 250 to 400 lb/in. (44 to 70 N/mm) of roller width, max. speed = 3 1/2 mph (5.5 km/h) or 308 ft/min (92 m/min).

$T_F$ - Tandem roller for final rolling, 200 to 400 lb/in. (35 to 70 N/mm) of roller width with minimum roller width of 50 in. (1.25 m). Ballast shall be increased if roller marks are not eliminated. Ballast shall be decreased if the mat shoves or distorts.

3W- Three wheel roller, max. speed = 3 mph (5 km/h) or 264 ft/min (80 m/min), 300 to 400 lb/in. (53 to 70 N/mm) of roller width. The three-wheel roller shall weigh 10 to 12 tons (9 to 11 metric tons)."

Page 331 Article 505.04(p). Under Range of Clearance in the first table change "in. x $10^{-6}$" to "in. x $10^{-3}$".

Page 444 Article 542.03. In the Notes in Table IIIB add "CPP Corrugated Polypropylene (CPP) pipe with smooth interior".

Page 445 Article 542.03. In the fourth column in Table IIIB (metric) change the heading for Type 5 pipe from "CPE" to "CPP".

Page 445 Article 542.03. In the Notes in Table IIIB (metric) change "PE Polyethylene (PE) pipe with a smooth interior" to "CPP Corrugated Polypropylene (CPP) pipe with smooth interior".

Page 449 Article 542.04(f)(2). In the third line of the second paragraph change "AASHTO T 99 (Method C)" to "Illinois Modified AASHTO T 99 (Method C)".

Page 544 Article 639.03. In the first sentence of the first paragraph change "AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires, Traffic Signals," to "AASHTO "LRFD Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals,"".

Page 546 Article 640.03. In the first sentence of the first paragraph change "AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals" to "AASHTO "LRFD Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals"".

Page 548 Article 641.03. In the first sentence of the first paragraph change "AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaire and Traffic Signals," to "AASHTO "LRFD Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals,"".

Page 621 Article 727.03. In the first sentence of the third paragraph change "AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals" to "AASHTO "LRFD Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals"".

Page 629 Article 734.03(a). In the fourth line of the second paragraph change "AASHTO T 99 (Method C)" to "Illinois Modified AASHTO T 99 (Method C)".

Page 649 Article 801.02. In the first sentence of the first paragraph change "AASHTO's Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals" to "AASHTO "LRFD Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals"".

Page 742 Article 1003.04(c). Under Gradation in the table change "(see Article 1003.02(c))" to "(see Article 1003.01(c))".

Page 755 Article 1004.03(b). Revise the third sentence of the first paragraph to read "For Class A (seal or cover coat), and other binder courses, the coarse aggregate shall be Class C quality or better.".

Page 809 Article 1020.04(e). In the third line of the first paragraph change "ITP SCC-3" to "ITP SCC-4".

Page 945 Article 1069.05. In the first sentence of the tenth paragraph change ""Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals"" to "AASHTO "LRFD Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals"".

Page 961 Article 1070.04(b)(1). In the third sentence of the first paragraph change ""Standard Specifications of Structural Supports for Highway Signs, Luminaires and Traffic Signals" published by AASHTO" to "AASHTO "LRFD Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals"".

Page 989 Article 1077.01. In the second sentence of the first paragraph change "Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals, as published by AASHTO" to "AASHTO "LRFD Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals"".

Page 1121 Article 1103.13(a). In the first line of the first paragraph change "Bridge Deck Approach Slabs." to "Bridge Deck and Approach Slabs.".

80364

**FUEL COST ADJUSTMENT (BDE) (RETURN FORM WITH BID)**

Effective: April 1, 2009
Revised: July 1, 2015

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 on the attached form whether or not this special provision will be part of the contract and submit the completed form with his/her bid. Failure to submit the form or failure to indicate contract number, company name and sign and date the form shall make this contract exempt of fuel cost adjustments for all categories of work. 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.

Return With Bid

# ILLINOIS DEPARTMENT OF TRANSPORTATION

## OPTION FOR FUEL COST ADJUSTMENT

The bidder shall submit this completed form with his/her bid. Failure to submit the form or properly complete contract number, company name, and sign and date the form shall make this contract exempt of fuel cost adjustments in all categories. Failure to indicate "Yes" for any category of work at the time of bid will make that category of work exempt from fuel cost adjustment. After award, this form, when submitted shall become part of the contract.

**Contract No.:** _____

**Company Name:** _____

**Contractor's Option:**

Is your company opting to include this special provision as part of the contract plans for the following categories of work?

| | | |
|---|---|---|
| Category A Earthwork. | Yes | ☐ |
| Category B Subbases and Aggregate Base Courses | Yes | ☐ |
| Category C HMA Bases, Pavements and Shoulders | Yes | ☐ |
| Category D PCC Bases, Pavements and Shoulders | Yes | ☐ |
| Category E Structures | Yes | ☐ |

**Signature:** _____ **Date:** _____

80229

**HOT-MIX ASPHALT - DENSITY TESTING OF LONGITUDINAL JOINTS (BDE)**

Effective: January 1, 2010
Revised: April 1, 2016

Description. This work shall consist of testing the density of longitudinal joints as part of the quality control/quality assurance (QC/QA) of hot-mix asphalt (HMA). Work shall be according to Section 1030 of the Standard Specifications except as follows.

Quality Control/Quality Assurance (QC/QA). Delete the second and third sentence of the third paragraph of Article 1030.05(d)(3) of the Standard Specifications.

Add the following paragraphs to the end of Article 1030.05(d)(3) of the Standard Specifications:

"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 4 in. (100 mm), from each pavement edge. (i.e. for a 5 in. (125 mm) lift the near edge of the density gauge or core barrel shall be within 5 in. (125 mm) from the edge of pavement.) Longitudinal joint density testing shall be performed using either a correlated nuclear gauge or cores.

a. Confined Edge. Each confined edge density shall be represented by a one-minute nuclear density reading or a core density and shall be included in the average of density readings or core densities taken across the mat which represents the Individual Test.

b. Unconfined Edge. Each unconfined edge joint density shall be represented by an average of three one-minute density readings or a single core density at the given density test location and shall meet the density requirements specified herein. The three one-minute readings shall be spaced 10 ft (3 m) apart longitudinally along the unconfined pavement edge and centered at the random density test location."

Revise the Density Control Limits table in Article 1030.05(d)(4) of the Standard Specifications to read:

| "Mixture Composition | Parameter | Individual Test (includes confined edges) | Unconfined Edge Joint Density Minimum |
|---|---|---|---|
| IL-4.75 | Ndesign = 50 | 93.0 – 97.4% [1/] | 91.0% |
| IL-9.5 | Ndesign = 90 | 92.0 – 96.0% | 90.0% |
| IL-9.5,IL-9.5L | Ndesign < 90 | 92.5 – 97.4% | 90.0% |
| IL-19.0 | Ndesign = 90 | 93.0 – 96.0% | 90.0% |
| IL-19.0, IL-19.0L | Ndesign < 90 | 93.0 [2/]– 97.4% | 90.0% |
| SMA | Ndesign = 50 & 80 | 93.5 – 97.4% | 91.0%" |

**MECHANICAL SPLICERS (BDE)**

Effective: July 1, 2016

Add the following paragraph after the second paragraph of Article 1006.10(a)(1)g. of the Standard Specifications.

> "Mechanical splicers shall have an additional requirement for total slip. The total slip of the bars within the splice sleeve of the connector after loading in tension to 30 ksi (207 MPa) and relaxing to 3 ksi (20.7 MPa) shall not exceed 0.01 in. (254 microns)."

80370

**PAVEMENT MARKING REMOVAL (BDE)**

Effective: July 1, 2016

Revise Article 783.02 of the Standard Specifications to read:

"**783.02 Equipment.** Equipment shall be according to the following.

| Item | Article/Section |
|---|---|
| (a) Grinders (Note 1) | |
| (b) Water Blaster with Vacuum Recovery | 1101.12 |

Note 1. Grinding equipment shall be approved by the Engineer."

Revise the first paragraph of Article 783.03 of the Standard Specifications to read:

"**783.03 Removal of Conflicting Markings.** Existing pavement markings that conflict with revised traffic patterns shall be removed. If darkness or inclement weather prohibits the removal operations, such operations shall be resumed the next morning or when weather permits. In the event of removal equipment failure, such equipment shall be repaired, replaced, or leased so removal operations can be resumed within 24 hours."

Revise the first and second sentences of the first paragraph of Article 783.03(a) of the Standard Specifications to read:

"The existing pavement markings shall be removed by the method specified and in a manner that does not materially damage the surface or texture of the pavement or surfacing. Small particles of tightly adhering existing markings may remain in place, if in the opinion of the Engineer, complete removal of the small particles will result in pavement surface damage."

Revise the first paragraph of Article 783.04 of the Standard Specifications to read:

"**783.04 Cleaning.** The roadway surface shall be cleaned of debris or any other deleterious material by the use of compressed air or water blast."

Revise the first paragraph of Article 783.06 of the Standard Specifications to read:

"**783.06 Basis of Payment.** This work will be paid for at the contract unit price per each for RAISED REFLECTIVE PAVEMENT MARKER REMOVAL, or at the contract unit price per square foot (square meter) for PAVEMENT MARKING REMOVAL – GRINDING and/or PAVEMENT MARKING REMOVAL – WATER BLASTING."

Delete Article 1101.13 from the Standard Specifications.

80371

**PROGRESS PAYMENTS (BDE)**

Effective: November 2, 2013

Revise Article 109.07(a) of the Standard Specifications to read:

"(a) Progress Payments. At least once each month, the Engineer will make a written estimate of the quantity of work performed in accordance with the contract, and the value thereof at the contract unit prices. The amount of the estimate approved as due for payment will be vouchered by the Department and presented to the State Comptroller for payment. No amount less than $1000.00 will be approved for payment other than the final payment.

Progress payments may be reduced by liens filed pursuant to Section 23(c) of the Mechanics' Lien Act, 770 ILCS 60/23(c).

If a Contractor or subcontractor has defaulted on a loan issued under the Department's Disadvantaged Business Revolving Loan Program (20 ILCS 2705/2705-610), progress payments may be reduced pursuant to the terms of that loan agreement. In such cases, the amount of the estimate related to the work performed by the Contractor or subcontractor, in default of the loan agreement, will be offset, in whole or in part, and vouchered by the Department to the Working Capital Revolving Fund or designated escrow account. Payment for the work shall be considered as issued and received by the Contractor or subcontractor on the date of the offset voucher. Further, the amount of the offset voucher shall be a credit against the Department's obligation to pay the Contractor, the Contractor's obligation to pay the subcontractor, and the Contractor's or subcontractor's total loan indebtedness to the Department. The offset shall continue until such time as the entire loan indebtedness is satisfied. The Department will notify the Contractor and Fund Control Agent in a timely manner of such offset. The Contractor or subcontractor shall not be entitled to additional payment in consideration of the offset.

The failure to perform any requirement, obligation, or term of the contract by the Contractor shall be reason for withholding any progress payments until the Department determines that compliance has been achieved."

80328

**STEEL COST ADJUSTMENT (BDE) (RETURN FORM WITH BID)**

Effective: April 2, 2004
Revised: July 1, 2015

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 on the attached form whether or not this special provision will be part of the contract and submit the completed form with his/her bid. Failure to submit the form or failure to indicate contract number, company name, and sign and date the form shall make this contract exempt of steel cost adjustments for all items of steel. 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, mesh 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 X 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:

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 |
| Mesh 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) |

Return With Bid

# ILLINOIS DEPARTMENT OF TRANSPORTATION

## OPTION FOR STEEL COST ADJUSTMENT

The bidder shall submit this completed form with his/her bid. Failure to submit the form or properly complete contract number, company name, and sign and date the form shall make this contract exempt of steel cost adjustments for all items of steel. Failure to indicate "Yes" for any item of work will make that item of steel exempt from steel cost adjustment. After award, this form, when submitted shall become part of the contract.

**Contract No.:** _____

**Company Name:**_____

**Contractor's Option:**

Is your company opting to include this special provision as part of the contract plans for the following items of work?

| | | |
|---|---|---|
| Metal Piling | Yes | ☐ |
| Structural Steel | Yes | ☐ |
| Reinforcing Steel | Yes | ☐ |
| Dowel Bars, Tie Bars and Mesh Reinforcement | Yes | ☐ |
| Guardrail | Yes | ☐ |
| Steel Traffic Signal and Light Poles, Towers and Mast Arms | Yes | ☐ |
| Metal Railings (excluding wire fence) | Yes | ☐ |
| Frames and Grates | Yes | ☐ |

**Signature:** _____ **Date:** _____

80127

**STEEL SLAG IN TRENCH BACKFILL (BDE)**

Effective: January 1, 2016

Revise the second sentence of Article 1003.01(a)(8) of the Standard Specifications to read:

"Crushed steel slag shall be the nonmetallic product which is developed in a molten condition simultaneously with steel in an open hearth, basic oxygen, or electric arc furnace."

Revise Article 1003.04(a) of the Standard Specifications to read:

"(a) Description. The fine aggregate shall consist of sand, stone sand, chats, wet bottom boiler slag, slag sand, or granulated slag sand. Crushed concrete sand, construction and demolition debris sand, and steel slag sand produced from an electric arc furnace may be used in lieu of the above for trench backfill."

80362

**TEMPORARY CONCRETE BARRIER (BDE)**

Effective: January 1, 2015
Revised: July 1, 2015

Revise Article 704.02 of the Standard Specifications to read:

"**704.02 Materials.** Materials shall be according to the following.

| Item | Article/Section |
|---|---|
| (a) Precast Temporary Concrete Barrier | 1042 |
| (b) Reinforcement Bars | 1006.10(a) |
| (c) Connecting Pins and Anchor Pins (Note 1) | |
| (d) Connecting Loop Bars (Note 2) | |
| (e) Packaged Rapid Hardening Mortar or Concrete | 1018 |

Note 1. Connecting Pins and Anchor Pins shall be according to the requirements of ASTM F 1554 Grade 36 (Grade 250).

Note 2. Connecting loop bars shall be smooth bars according to the requirements of ASTM A 36 (A 36M)."

Revise Article 704.04 of the Standard Specifications to read:

"**704.04 Installation.** The barriers shall be seated on bare, clean pavement or paved shoulder and connected together in a smooth, continuous line at the locations provided by the Engineer.

Except on bridge decks, or where alternate anchoring details are shown on the plans, the barrier unit at each end of an installation shall be anchored to the pavement or paved shoulder using six anchor pins and protected with an impact attenuator as shown on the plans. When pinning of additional barrier units within the installation is specified, three anchor pins shall be installed in the traffic side holes of the required barriers.

Where both pinned and unpinned barrier units are used in a continuous installation, a transition shall be provided between them. The transition from pinned to unpinned barrier shall consist of two anchor pins installed in the end holes on the traffic side of the first barrier beyond the pinned section and one anchor pin installed in the middle hole on the traffic side of the second barrier beyond the pinned section. The third barrier beyond the pinned section shall then be unpinned.

Barriers located on bridge decks shall be restrained as shown on the plans. Anchor pins shall not be installed through bridge decks, unless otherwise noted.

Barriers or attachments damaged during transportation or handling, or by traffic during the life of the installation, shall be repaired or replaced. The Engineer will be the sole judge in determining which units or attachments require repair or replacement.

The barriers shall be removed when no longer required by the contract. After removal, all anchor holes in the pavement or paved shoulder shall be filled with a rapid hardening mortar or concrete. Only enough water to permit placement and consolidation by rodding shall be used and the material shall be struck-off flush."

Add the following after the first paragraph of Article 704.05 of the Standard Specifications:

"Anchor pins, except for the six anchor pins for the barrier unit at each end of an installation, will be measured for payment as each, per anchor pin installed."

Add the following after the second paragraph of Article 704.06 of the Standard Specifications:

"Anchor pins, except for the six anchor pins for the barrier unit at each end of an installation, will be paid for at the contract unit price per each for PINNING TEMPORARY CONCRETE BARRIER."

80355

**TRAINING SPECIAL PROVISIONS (BDE)** 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 . In the event the contractor subcontracts a portion of the contract work, he 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 insure 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 employed by him 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 that he 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 has successfully completed a training course leading to journeyman status or in which he 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, Manpower Administration, Bureau of Apprenticeship and Training 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 then 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 will provide for the maintenance of records and furnish periodic reports documenting his performance under this Training Special Provision.

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.

20338

**WARM MIX ASPHALT (BDE)**

Effective: January 1, 2012
Revised: April 1, 2016

Description. This work shall consist of designing, producing and constructing Warm Mix Asphalt (WMA) in lieu of Hot Mix Asphalt (HMA) at the Contractor's option. Work shall be according to Sections 406, 407, 408, 1030, and 1102 of the Standard Specifications, except as modified herein. In addition, any references to HMA in the Standard Specifications, or the special provisions shall be construed to include WMA.

WMA is an asphalt mixture which can be produced at temperatures lower than allowed for HMA utilizing approved WMA technologies. WMA technologies are defined as the use of additives or processes which allow a reduction in the temperatures at which HMA mixes are produced and placed. WMA is produced by the use of additives, a water foaming process, or combination of both. Additives include minerals, chemicals or organics incorporated into the asphalt binder stream in a dedicated delivery system. The process of foaming injects water into the asphalt binder stream, just prior to incorporation of the asphalt binder with the aggregate.

Approved WMA technologies may also be used in HMA provided all the requirements specified herein, with the exception of temperature, are met. However, asphalt mixtures produced at temperatures in excess of 275 °F (135 °C) will not be considered WMA when determining the grade reduction of the virgin asphalt binder grade.

Equipment.

Revise the first paragraph of Article 1102.01 of the Standard Specifications to read:

"**1102.01 Hot-Mix Asphalt Plant.** The hot-mix asphalt (HMA) plant shall be the batch-type, continuous-type, or dryer drum plant. The plants shall be evaluated for prequalification rating and approval to produce HMA according to the current Bureau of Materials and Physical Research Policy Memorandum, "Approval of Hot-Mix Asphalt Plants and Equipment". Once approved, the Contractor shall notify the Bureau of Materials and Physical Research to obtain approval of all plant modifications. The plants shall not be used to produce mixtures concurrently for more than one project or for private work unless permission is granted in writing by the Engineer. The plant units shall be so designed, coordinated and operated that they will function properly and produce HMA having uniform temperatures and compositions within the tolerances specified. The plant units shall meet the following requirements."

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

"(11) Equipment for Warm Mix Technologies.

a. Foaming. Metering equipment for foamed asphalt shall have an accuracy of ± 2 percent of the actual water metered. The foaming control system shall be electronically interfaced with the asphalt binder meter.

b. Additives. Additives shall be introduced into the plant according to the supplier's recommendations and shall be approved by the Engineer. The system for introducing the WMA additive shall be interlocked with the aggregate feed or weigh system to maintain correct proportions for all rates of production and batch sizes."

Mix Design Verification.

Add the following to Article 1030.04 of the Standard Specifications.

"(e) Warm Mix Technologies.

(1) Foaming. WMA mix design verification will not be required when foaming technology is used alone (without WMA additives). However, the foaming technology shall only be used on HMA designs previously approved by the Department.

(2) Additives. WMA mix designs utilizing additives shall be submitted to the Engineer for mix design verification."

Construction Requirements.

Revise the second paragraph of Article 406.06(b)(1) of the Standard Specifications to read:

"The HMA shall be delivered at a temperature of 250 to 350 °F (120 to 175 °C). WMA shall be delivered at a minimum temperature of 215 °F (102 °C)."

Basis of Payment.

This work will be paid at the contract unit price bid for the HMA pay items involved. Anti-strip will not be paid for separately, but shall be considered as included in the cost of the work.

80288

**WEEKLY DBE TRUCKING REPORTS (BDE)**

Effective: June 2, 2012
Revised: April 2, 2015

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 Monday through Sunday 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.

80302

**PIPE UNDERDRAINS FOR STRUCTURES**
Effective: May 17, 2000
Revised: January 22, 2010

Description. This work shall consist of furnishing and installing a pipe underdrain system as shown on the plans, as specified herein, and as directed by the Engineer.

Materials. Materials shall meet the requirements as set forth below:

The perforated pipe underdrain shall be according to Article 601.02 of the Standard Specifications. Outlet pipes or pipes connecting to a separate storm sewer system shall not be perforated.

The drainage aggregate shall be a combination of one or more of the following gradations, FA1, FA2, CA5, CA7, CA8, CA11, or CA13 thru 16, according to Sections 1003 and 1004 of the Standard Specifications.

The fabric surrounding the drainage aggregate shall be Geotechnical Fabric for French Drains according to Article 1080.05 of the Standard Specifications.

Construction Requirements. All work shall be according to the applicable requirements of Section 601 of the Standard Specifications except as modified below.

The pipe underdrains shall consist of a perforated pipe drain situated at the bottom of an area of drainage aggregate wrapped completely in geotechnical fabric and shall be installed to the lines and gradients as shown on the plans.

Method of Measurement. Pipe Underdrains for Structures shall be measured for payment in feet (meters), in place. Measurement shall be along the centerline of the pipe underdrains. All connectors, outlet pipes, elbows, and all other miscellaneous items shall be included in the measurement. Concrete headwalls shall be included in the cost of Pipe Underdrains for Structures, but shall not be included in the measurement for payment.

Basis of Payment. This work will be paid for at the contract unit price per foot (meter) for PIPE UNDERDRAINS FOR STRUCTURES of the diameter specified. Furnishing and installation of the drainage aggregate, geotechnical fabric, forming holes in structural elements and any excavation required, will not be paid for separately, but shall be included in the cost of the pipe underdrains for structures.

**GRANULAR BACKFILL FOR STRUCTURES**
Effective: April 19, 2012
Revised: October 30, 2012

Revise Section 586 of the Standard Specifications to read:

## SECTION 586. GRANULAR BACKFILL FOR STRUCTURES

**586.01 Description.** This work shall consist of furnishing, transporting and placing granular backfill for abutment structures.

**586.02 Materials.** Materials shall be according to the following.

| Item | Article/Section |
|---|---|
| (a) Fine Aggregate | 1003.04 |
| (b) Coarse Aggregates | 1004.05 |

## CONSTRUCTION REQUIREMENTS

**586.03 General.** This work shall be done according to Article 502.10 except as modified below. The backfill volume shall be backfilled, with granular material as specified in Article 586.02, to the required elevation as shown in the contract plans. The backfill volume shall be placed in convenient lifts for the full width to be backfilled. Unless otherwise specified in the contract plans, mechanical compaction will not be required. A deposit of gravel or crushed stone placed behind drain holes shall not be required. All drains not covered by geocomposite wall drains or other devices to prevent loss of backfill material shall be covered by sufficient filter fabric material meeting the requirements of Section 1080 and Section 282 with either 6 or 8 oz/sq yd (200 or 270 g/sq m) material allowed, with free edges overlapping the drain hole by at least 12 in. (300 mm) in all directions.

The granular backfill shall be brought to the finished grade as shown in the contract plans. When concrete is to be cast on top of the granular backfill, the Contractor, subject to approval of the Engineer, may prepare the top surface of the fill to receive the concrete as he/she deems necessary for satisfactory placement at no additional cost to the Department.

**586.04 Method of Measurement.** This work will be measured for payment as follows.

(a) Contract Quantities. The requirements for the use of contract quantities shall conform to Article 202.07(a).

(b) Measured Quantities. This work will be measured for payment in place and the volume computed in cubic yards (cubic meters). The volume will be determined by the method of average end areas behind the abutment.

**586.05 Basis of Payment.** This work will be paid for at the contract unit price per cubic yard (cubic meter) for GRANULAR BACKFILL FOR STRUCTURES.

Illinois Department of Transportation

# Storm Water Pollution Prevention Plan

| Route | Marked Route | Section |
|---|---|---|
| FAP 520 | BLISS ROAD | 08-00058-02-BR |
| **Project Number** | **County** | **Contract Number** |
| BROS-0089(126) | Kane | |

This plan has been prepared to comply with the provisions of the National Pollutant Discharge Elimination System (NPDES) Permit No. ILR10 (Permit ILR10), issues 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.

| Print Name | Title | Agency |
|---|---|---|
| Carl Schoedel, PE | County Engineer | Kane County Division of Transport |
| **Signature** | | **Date** |
| | | 5-13-16 |

## I. Site Description

A. Provide a description of the project location (include latitude and longitude):

The Bliss Road over Blackberry Creek project is located in Sugar Grove, Kane County, Illinois. The Bliss Road site is located in the SE ¼ of Section 9 and the NE ¼ of Section 16, Township 38N, Range 7E (Latitude: 41.780117° N & Longitude: 88.439863° W). The bridge is located approximately 500 feet east of the IL Rte. 47 intersection. The land of south of the bridge is generally residential and north of the bridge is Forest Preserve and private wooded land.

B. Provide a description of the construction activity which is subject of this plan:

The purpose of the project is to replace the existing bridge over Blackberry Creek with a new bridge because the existing bridge is structurally deficient.

This work consists of replacing the existing bridge with a new bridge. The proposed roadway improvements consist of raising the profile approximately 3.5 feet to meet hydraulic free board requirements, regrading the ditches to provide compensatory storage for the floodplain fill, and providing erosion control for the bridge abutments. All disturbed areas that are not being paved or covered with aggregate will be seeded with the appropriate vegetation and erosion protection.

The proposed soil erosion and sediment controls for this project include temporary ditch checks, perimeter erosion barrier (silt fence), erosion control blanket, hydraulic mulch, temporary inlet protection, filtering bag systems, stream bank protection, and temporary and permanent seeding.

C. Provide the estimated duration of this project:

The project will be complete in six (6) months.

D. The total area of the construction site is estimated to be 6.07 acres.

The total area of the site estimated to be disturbed by excavation, grading or other activities is 6.07 acres.

E. The following is a weighted average of the runoff coefficient for this project after construction activities are completed:

0.54

F. List all soils found within project boundaries. Include map unit name, slope information and erosivity:

The USDA SSURGO Soil Data (December 2004) was reviewed for hydric soils within the project. Hydric soils may indicate wetland conditions exist. The following soils are mapped in the project:

193B Mayville Silt Loam
512B Danabrook Silt Loam
512C2 Danabrook Silt Loam
527D2 Kidami Loam
618E Senachwine Silt Loam
3076A Otter Silt Loam (Hydric)

G. Provide an aerial extent of wetland acreage at the site:

WBK identified 3.02 acres of wetland and Waters of the US within the project limits. The Waters of the US is Blackberry Creek, and there are six (6) areas of wetland and wetland fringe along the creek within the project area.

H. Provide a description of potentially erosive areas associated with this project:

During construction activities, the areas with the greatest potential for erosion are the ditches, side slopes, and exposed abutments and bridge cone under the bridge. After construction, the bridge cone and abutments will be covered with riprap and filter fabric to prevent erosion. The ditches and side slopes will be vegetated and covered with temporary erosions control blanket.

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 scopes, etc.):

The ground will be disturbed for the entire length of the project due to the removal of current stabilization (vegetation and asphalt) to replace the bridge and roadway. During the replacement of the bridge, the abutments and channel will be shaped, then the riprap protection will be placed. Filter bag systems will be utilized to control sediment release to the creek for all dewatering processes required to construct the bridge abutments. Temporary sheet piling or concrete barrier walls will be in place so work will be preformed in the dry preventing erosion of the bare banks and water quality impacts of the active construction. During the grading and shaping of of the ditches, the bare soil will be protected by temporary ditch checks and hydraulic mulch prior to final stabilization. The potential for erosion in the ditches is moderate due to the short lengths and flatter longitudinal ditch slopes. The embankments will be permenently protected from erosion by vegetation and erosion control blankets and temporary seed and and/or hydromulch in the interim conditon. The slopes vary in steepness from 2:1 to 4:1. The embankment slopes each side range between 8 and 20 feet in width.

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 off site 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:

Since the drainage system currently lies within the Kane County right of way, Kane County Division of Transportation is the agency responsible for the system.

L. The following is a list of General NPDES ILR40 permittees within whose reporting jurisdiction this project is located.

Kane County Division of Transportation will have reporting jurisdiction for this project location.

M. The following is a list of receiving water(s) and the ultimate receiving water(s) for this site. The location of the receiving waters can be found on the erosion and sediment control plans:

Blackberry Creek is the receiving waters of the project. Blackberry Creek is tributary to the Fox River.

N. Describe areas of the site that are to be protected or remain undisturbed. These areas may include steep slopes, highly erodible soils, streams, stream buffers, specimen trees, natural vegetation, nature preserves, etc.

Contractor will be prohibited from entering areas outside of the project area and these areas will be further protected by perimeter erosion barrier. Work in Blackberry Creek will be performed in the dry and require temporary barriers to divert flow. Dewatering will be filtered through a filtering system prior to re-entering the creek to reduce the potential for erosion and water quality impacts. Pavements to be left in place will be cleaned daily and inlet filters will be placed in open inlets in the gutter line to collect remaining roadway sediment. There are no additional areas to be preserved within the project limits.

O. The following sensitive environmental resources are associated with this project, and may have the potential to be impacted by the proposed development:

- ☒ Floodplain
- ☒ Wetland Riparian
- ☐ Threatened and Endangered Species
- ☐ Historic Preservation
- ☐ 303(d) Listed receiving waters for suspended solids, turbidity, or siltation
- ☐ Receiving waters with Total Maximum Daily Load (TMDL) for sediment, total suspended solids, turbidity, or siltation
- ☐ Applicable Federal, Tribal, State or Local Programs
- ☐ Other

1. 303(d) Listed receiving waters (fill out this section if checked above):

   a. The name(s) of the listed water body, and identification of all pollutants causing impairment:

   b. 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:

   c. Provide a description of the location(s) of direct discharge from the project site to the 303(d) water body:

   d. Provide a description of the location(s) of any dewatering discharges to the MS4 and/or water body:

2. TMDL (fill out this section if checked above)

   a. The name(s) of the listed water body:

   b. 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:

   c. 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 the allocation:

P. The following pollutants of concern will be associated with this construction project:

- ☒ Soil Sediment
- ☒ Concrete
- ☒ Petroleum (gas, diesel, oil, kerosene, hydraulic oil / fluids)
- ☐ Antifreeze / Coolants

- ☒ Concrete Truck waste
- ☒ Concrete Curing Compounds
- ☒ Solid waste Debris
- ☒ Paints
- ☒ Solvents
- ☒ Fertilizers / Pesticides
- ☐ Waste water from cleaning construction equipment
- ☐ Other (specify) _____
- ☐ Other (specify) _____
- ☐ Other (specify) _____
- ☐ Other (specify) _____
- ☐ 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 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:

- ☒ Preservation of Mature Vegetation
- ☐ Vegetated Buffer Strips
- ☒ Protection of Trees
- ☒ Temporary Erosion Control Seeding
- ☒ Temporary Turf (Seeding, Class 7)
- ☒ Temporary Mulching
- ☒ Permanent Seeding
- ☒ Erosion Control Blanket / Mulching
- ☐ Sodding
- ☐ Geotextiles
- ☒ Other (specify) Filter Bag Systems
- ☐ Other (specify) _____
- ☐ Other (specify) _____
- ☐ Other (specify) _____

Describe how the stabilization practices listed above will be utilized during construction:

Mature vegetation in areas that will not be disturbed will be preserved to provide additional protection from erosion and sediment deposition in Blackberry Creek. Temporary erosion control seeding will be utilized if the project requires a prolonged, but temporary pause in work greater than 14 days.

Describe how the stabilization practices listed above will be utilized after construction activities have been completed:

Areas that are disturbed by construction that will not be paved will be stabilized with permanent seeding and erosion control blanket.

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.

The following stabilization practices will be used for this project:

| | |
|---|---|
| ☒ Perimeter Erosion Barrier | ☐ Rock Outlet Protection |
| ☒ Temporary Ditch Check | ☒ Riprap |
| ☒ Storm Drain Inlet Protection | ☐ Gabions |
| ☐ Sediment Trap | ☐ Slope Mattress |
| ☐ Temporary Pipe Slope Drain | ☐ Retaining Walls |
| ☐ Temporary Sediment Basin | ☐ Slope Walls |
| ☐ Temporary Stream Crossing | ☐ Concrete Revetment Mats |
| ☒ Stabilized Construction Exits | ☐ Level Spreaders |
| ☐ Turf Reinforcement Mats | ☒ Other (specify) Filter Bag Systems |
| ☒ Permanent Check Dams | ☐ Other (specify) |
| ☐ Permanent Sediment Basin | ☐ Other (specify) |
| ☐ Aggregate Ditch | ☐ Other (specify) |
| ☐ Paved Ditch | ☐ Other (specify) |

Describe how the structural practices listed above will be utilized during construction:

Perimeter Erosion Barrier will be installed along the perimeter of the project area to prevent sediment from leaving the site. Temporary Ditch Checks will be placed in the ditches at the beginning of the project and may require adjusting during grading. The checks will remain in place until final stabilization has been achieved in the ditches. Storm Drain Inlet Protection will be utilized around the upstream end of culverts at field entrances or driveways.Inlet filters will be placed in all drainage structures in the roadway gutter line. The protection will remain in place from project initiation until final stabilization in the ditches and turf areas is achieved.

Describe how the structural practices listed above will be utilized after construction activities have been completed:

The riprap will remain in place after construction to prevent erosion of the abutments and bridge cones. Riprap will also be left in place at the outlet of proposed driveway culverts and storm sewer outs.

D. **Treatment Chemicals**

Will polymer flocculents or treatment chemicals be utilized on this project: ☐ Yes ☒ No

If yes above, identify where and how polymer flocculents or treatment chemicals will be utilized on this project.

E. **Permanent 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.

1. 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 on the basis of the technical guidance in Chapter 41 (Construction Site Storm Water Pollution Control) of the IDOT Bureau of Design & Environment 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.
2. 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:

   The roadside ditches have been designed to control erodiable velocities and the ditch bottom and slopes will be vegetated to promote infiltration and filtration of stormwater runoff. In areas of closed storm sewer systems sediment collection from pavements, overland run-off and storm sewer flows will collected in catch basins strtegically placed upstream of the outlets. Aggregate check dams will be placed at the ends of the ditch lines prior to it connecting to the creek to control velocity, erosion and sediment release to the creek.

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 Illinois Environmental Protection Agency'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:

In accordance with the current Kane County Stormwater Management Ordinance, Kane-DuPage Soil & Water Conservation District, and the US Army Corps of Engineers.

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 construction entrances/exits)
   - 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 operations
   - Time frame for other significant long-term operations or activities that may plan non-storm water discharges such as dewatering, grinding, etc.
   - Permanent stabilization activities for each area of the project
2. 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:

- 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 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 to the Contractor for the practices associated with this project. 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 Contractor's responsibility to attain maintenance guidelines for any manufactured BMPs which are to be installed and maintained per manufacture's specifications.

Vegetative soil erosion measures - the vegetative growth of temporary and permanent seeding, vegetative filters, etc., shall be maintained periodically and supplied adequate watering and fertilizer. The vegetative cover shall be removed and reseeded as necessary.

Water treatment systems (ie: filter bags, inlet filters, etc.) will be cleaned and items replaced as recommended by the designer of the system. Sediment accumulation will be removed at a minimum when the height is equal to 50% of the height of the baffle.

Perimeter erosion barrier, temporary ditch checks, and rolled excelsior logs will be examined regularly and repaired as necessary. Sediment shall be removed when it reaches a height equal to 50% of the height of the barrier.

Stabilized access road and stabilized construction entrances (if required) shall have sediment build up removed as necessary.

## IV. Inspections

Qualified personnel shall inspect disturbed areas of the construction site 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 e-mail 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

Additional Inspections Required:

| |
|---|
| |

## 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.

Illinois Department of Transportation

# Contractor Certification Statement

Prior to conducting any professional services at the site covered by this contract, the Contractor and every subcontractor must complete and return to the Resident Engineer the following certification. A separate certification must be submitted by each firm. Attach to this certification all items required by Section II.G of the Storm Water Pollution Prevention Plan (SWPPP) which will be handled by the Contractors/subcontractor completing this form.

| Route | Marked Route | Section |
|---|---|---|
| FAP 520 | BLISS ROAD | 08-00058-02-BR |

| Project Number | County | Contract Number |
|---|---|---|
| BROS-0089(126) | Kane | |

This certification statement is a part of SWPPP for the project described above, in accordance with the General NPDES Permit No. ILR10 issued by the Illinois Environmental Protection Agency.

I certify under penalty of law that I understand the terms of the Permit No. ILR10 that authorizes the storm water discharges associated with industrial activity from the construction site identified as part of this certification.

In addition, I have read and understand all of the information and requirements stated in SWPPP for the above mentioned project; I have received copies of all appropriate maintenance procedures; and, I have provided all documentation required to be in compliance with the Permit ILR10 and SWPPP and will provide timely updates to these documents as necessary.

☐ Contractor

☐ Sub-Contractor

| Print Name | Signature |
|---|---|
| | |

| Title | Date |
|---|---|
| | |

| Name of Firm | Telephone |
|---|---|
| | |

| Street Address | City/State/Zip |
|---|---|
| | |

Items which the Contractor/subcontractor will be responsible for as required in Section II.G. of SWPPP:

# Illinois Environmental Protection Agency

Bureau of Water • 1021 North Grand Avenue East • P.O. Box 19276 • Springfield • Illinois • 62794-9276

## Division of Water Pollution Control
## Notice of Intent (NOI) for General Permit
## to Discharge Storm Water Associated with Construction Site Activities

***This fillable form may be completed online, a copy saved locally, printed and signed before it is submitted to the Permit Section at the above address.***

For Office Use Only

Permit No. ILR10 _____

### OWNER INFORMATION

Company/Owner Name: Kane County Division of Transportation

Mailing Address: 41W011 Burlington Road Phone: 630-584-1170

City: St. Charles State: IL Zip: 60175 Fax: 630-584-5265

Contact Person: Dave Boesch E-mail: boeschdavid@co.kane.il.us

Owner Type (select one) County

MS4 Community: ☑ Yes ☐ No

### CONTRACTOR INFORMATION

Contractor Name:

Mailing Address: Phone:

City: State: Zip: Fax:

### CONSTRUCTION SITE INFORMATION

Select One: ☒ New ☐ Change of information for: ILR10 _____

Project Name: Bliss Road at Blackberry Creek County: Kane

Street Address: Bliss Road City: Sugar Grove IL Zip: 60506

| Latitude: | 41 | 46 | 48.42 | Longitude: | 88 | 26 | 23.51 | 9/16 | 38N | 7E |
|---|---|---|---|---|---|---|---|---|---|---|
| | (Deg) | (Min) | (Sec) | | (Deg) | (Min) | (Sec) | Section | Township | Range |

Approximate Construction Start Date Apr 3, 2017 Approximate Construction End Date Nov 10, 2017

Total size of construction site in acres: 6.1

If less than 1 acre, is the site part of a larger common plan of development?
☐ Yes ☐ No

Fee Schedule for Construction Sites:
Less than 5 acres - $250
5 or more acres - $750

### STORM WATER POLLUTION PREVENTION PLAN (SWPPP)

Has the SWPPP been submitted to the Agency? ☑ Yes ☐ No

(Submit SWPPP electronically to: epa.constilr10swppp@illinois.gov)

Location of SWPPP for viewing: Address: Field Trailer at the Site City: Sugar Grove

SWPPP contact information:

Inspector qualifications:

Contact Name:

Phone: Fax: E-mail:

Project inspector, if different from above

Inspector qualifications:

Inspector's Name:

Phone: Fax: E-mail:

IL 532 2104 WPC 623
Rev 5/10

**TYPE OF CONSTRUCTION (select one)**

Construction Type Reconstruction

SIC Code: _____

Type a detailed description of the project:

This project involves the removal & replacement of the existing bridge over Blackberry Creek with new bridge including improvements to the roadway approaches. The embankment will be raised and widened. Storm sewer and gutter will be installed on the south side of the bridge and ditches will be regraded on the north side of the bridge. An area southwest of the new bridge will be graded for compensatory storm water storage.

**HISTORIC PRESERVATION AND ENDANGERED SPECIES COMPLIANCE**

Has the project been submitted to the following state agencies to satisfy applicable requirements for compliance with Illinois law on:

Historic Preservation Agency ☑ Yes ☐ No

Endangered Species ☑ Yes ☐ No

**RECEIVING WATER INFORMATION**

Does your storm water discharge directly to: ☑ Waters of the State or ☑ Storm Sewer

Owner of storm sewer system: Kane County Div. of Transportation (south side storm sewer & north side ditches)

Name of closest receiving water body to which you discharge: Blackberry Creek

Mail completed form to: Illinois Environmental Protection Agency
Division of Water Pollution Control
Attn: Permit Section
Post Office Box 19276
Springfield, Illinois 62794-9276
or call (217) 782-0610
FAX: (217) 782-9891

Or submit electronically to: epa.constilr10swppp@illinois.gov

I certify under penalty of law that this document and all attachments were prepared under my direction and supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage this 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. In addition, I certify that the provisions of the permit, including the development and implementation of a storm water pollution prevention plan and a monitoring program plan, will be complied with.

***Any person who knowingly makes a false, fictitious, or fraudulent material statement, orally or in writing, to the Illinois EPA commits a Class 4 felony. A second or subsequent offense after conviction is a Class 3 felony. (415 ILCS 5/44(h))***

_____ _____

Owner Signature: Date:

_____ _____

Printed Name: Title:

## INSTRUCTIONS FOR COMPLETION OF CONSTRUCTION ACTIVITY NOTICE OF INTENT (NOI) FORM

Submit original, electronic or facsimile copies. Facsimile and/or electronic copies should be followed-up with submission of an original signature copy as soon as possible. Please write "copy" under the "For Office Use Only" box in the upper right hand corner of the first page.

***This fillable form may be completed online, a copy saved locally, printed and signed before it is submitted to the Permit Section at:***

Illinois Environmental Protection Agency
Division of Water Pollution Control
Permit Section
Post Office Box 19276
Springfield, Illinois 62794-9276
or call (217) 782-0610
FAX: (217) 782-9891

Or submit electronically to: epa.constilr10swppp@illinois.gov

**Reports must be typed or printed legibly and signed.**

Any facility that is not presently covered by the General NPDES Permit for Storm Water Discharges From Construction Site Activities is considered a new facility.

If this is a change in your facility information, renewal, etc., please fill in your permit number on the appropriate line, changes of information or permit renewal notifications do not require a fee.

**NOTE: FACILITY LOCATION IS NOT NECESSARILY THE FACILITY MAILING ADDRESS, BUT SHOULD DESCRIBE WHERE THE FACILITY IS LOCATED.**

Use the formats given in the following examples for correct form completion.

| | Example | Format |
|---|---|---|
| Section | 12 | 1 or 2 numerical digits |
| Township | 12N | 1 or 2 numerical digits followed by "N" or "S" |
| Range | 12W | 1 or 2 numerical digits followed by "E" or "W" |

For the Name of Closest Receiving Waters, do not use terms such as ditch or channel. For unnamed tributaries, use terms which include at least a named main tributary such as "Unnamed Tributary to Sugar Creek to Sangamon River."

Submission of initial fee and an electronic submission of Storm Water Pollution Prevention Plan (SWPPP) for Initial Permit prior to the Notice of Intent being considered complete for coverage by the ILR10 General Permits. Please make checks payable to: Illinois EPA at the above address.

Construction sites with less than 5 acres of land disturbance - fee is $250.

Construction sites with 5 or more acres of land disturbance - fee is $750.

SWPPP should be submitted electronically to: epa.constilr10swppp@illinois.gov When submitting electronically, use Project Name and City as indicated on NOI form.

COE PERMIT

TO BE ADDED AT FINAL SUBMITTAL

# Illinois Department of Transportation

Division of Highways/Region One / District One
201 West Center Court/Schaumburg, Illinois 60196-1096

LOCAL ROADS AND STREETS
Regulated Floodway Construction Permit Approval
County of Kane
Location: Bliss Road over Blackberry Creek
Section No.: 08-00058-02-BR
Project No.: BHOS-0089(126)
Job No.: C-91-162-09
File No.: 457
Existing Structure No.: 045-3006
Proposed Structure No.: 045-3030
Kane County

July 20, 2012

Mr. Carl Schoedel
County Engineer
Kane County Division of Transportation
41W011 Burlington Road
St. Charles, IL 60175

Dear Mr. Schoedel:

Attached is the Regulated Floodway Construction Permit No. DIL-12-007 for the above-referenced project authorizing the construction of Bliss Road over Blackberry Creek.

The project consists of construction of a Steel Wide Flange (Composite) bridge structure to replace the existing structure at the same location. The proposed structure length is 83'-8" back to back of abutments. There is one proposed span with length 81'-2". The proposed low beam elevation is 687.83. The proposed skew angle is 0. This project is located in Section 9, Township 38 North, Range 7 East of 3rd Principal Meridian.

This Permit grants permission to the County to only perform construction activities in a floodway.

If you have any questions or need additional information, please contact Kevin Stallworth, Acting Field Engineer, at (847) 705-4169 or via email at Kevin.Stallworth@illinois.gov.

Very truly yours,

John Fortmann, P.E.
Acting Deputy Director of Highways,
Region One Engineer

By:
Christopher J. Holt, P.E.
Bureau Chief of Local Roads and Streets



Attachments

cc: John Witte, Willis Burke Kelsey Associates w/att.

# STATE OF ILLINOIS

Permit No.: DIL-12-007

## Department of Transportation

### Division of Highways
### 2300 South Dirksen Parkway
### Springfield, IL 62764

**REGULATED FLOODWAY CONSTRUCTION PERMIT**
**RIVERS, LAKES AND STREAMS ACT "615 ILCS 5"**

PERMISSION IS HEREBY GRANTED TO: Kane County Division of Transportation
41W011 Burlington Road
St. Charles, IL 60175

FOR CONSTRUCTION OF : A Steel Wide Flange (Composite) bridge structure to replace the existing structure along Bliss Road over Blackberry Creek. The proposed structure length is 83'-8" back to back of abutments. There is one proposed span with length 81'-2". The proposed low beam elevation is 687.83. The proposed skew angle is 0. The project is located in Section 9, Township 38 North, Range 7 East of 3rd Principal Meridian, Kane County, as part of Section Number 08-00058-02-BR, Structure 045-3030.

IN ACCORDANCE WITH THE Application and Plan
DATED July 10, 2012 AND MADE A PART HEREOF, AND SUBJECT TO THE
TERMS SHOWN ON THE BACK HEREOF AND THE SPECIAL CONDITIONS ATTACHED
HERETO AS EXHIBIT.

EXAMINED AND APPROVED

John Fortmann
REGIONAL ENGINEER/CENTRAL BUREAU CHIEF

7/11/12
DATE

THIS PERMIT is subject to the following conditions:

(a) This permit is granted in accordance with Rivers, Lakes And Streams Act "615 ILCS 5".

(b) This permit does not convey title to the permittee or recognize title of the permittee to any submerged or other lands, and furthermore, does not convey, lease or provide any right or rights of occupancy or use of the public or private property on which the project or any part thereof will be located, or otherwise grant to the permittee any right or interest in or to the property, whether the property is owned or possessed by the State of Illinois or by any private or public party or parties.

(c) This permitee does not release the permitee from liability for damage to persons or property resulting from the work covered by this permit, and does not authorize any injury to private property or invasion of private rights.

(d) This permit does not relieve the permitee of the responsibility to obtain other federal, state or local authorizations required for the construction of the permitted activity; and if the permitee is required by law to obtain approval from any federal agency to do the work, this permit is not effective until the federal approval is obtained.

(e) The permitee shall, at his own expense, remove all temporary piling, cofferdams, false work, and material incidental to the construction of the project, from floodway, river, stream or lake in which the work is done. If the permittee fails to remove such structures or materials, the state may have removal made at the expense of the permittee. If future need for public navigation or public interest of any character, by the state or federal government, necessitates changes in any part of the structure or structures, such changes shall be made by and at the expense of the permittee or his successors as required by the Department of Transportation or other properly constituted agency, within sixty (60) days from receipt of written notice of the necessity from the Department or other agency, unless a longer period of time is specifically authorized.

(f) The execution and details of the work authorized shall be subject to the supervision and approval of the Department. Department personnel shall have right of access to accomplish this purpose.

(g) Starting work on the construction authorized will be considered full acceptance by the permittee of the terms and conditions of the permit.

(h) The Department in issuing this permit has relied upon the statements and representations made by the permittee; if any statement or representation made by the permittee is found to be false, the permit may be revoked at the option of the Department; and when a permit is revoked all rights of the permittee under the permit are voided.

(i) If the project authorized by this permit is located in or along Lake Michigan or a meandered lake, the permittee and his successors shall make no claim whatsoever to any interest in any accretions caused by the project.

(j) In issuing this permit, the Department does not approve the adequacy of the design or structural strength or the structure or improvement.

(k) Noncompliance with the conditions stated herein will make this permit void.

(l) If the work permitted is not initiated on or before six years from the date of issuance as shown on the front of this form, this permit shall be void.

# HYDRAULIC REPORT
# BLISS ROAD BRIDGE CROSSING OF
# BLACKBERRY CREEK

**EXISTING STRUCTURE NUMBER: 045-3006**

**PROPOSED STRUCTURE NUMBER: 045-3030**

*Prepared For:*

**Kane County Division of Transportation**
**41W011 Burlington Road**
**St. Charles, Illinois 60175**

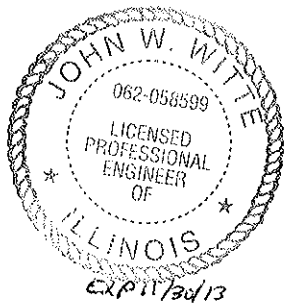
*Prepared By:*

**Wills Burke Kelsey Associates, Ltd**
**116 West Main Street, Suite 201**
**St Charles, Illinois 60174**

**WBK Project # 09-0055**

June 6, 2012

Revised June 29, 2012




John Witte PE, CFM

Illinois Registered Professional Engineer

No. 062-058599

# IEPA WATER MAIN CONSTRUCTION PERMIT

# TO BE ADDED AT FINAL SUBMITTAL

KANE COUNTY STORM WATER PERMIT

TO BE ADDED AT FINAL SUBMITTAL

# Kane – DuPage Soil & Water Conservation District

July 21, 2015

Natalie Paver
Wills Burke Kelsey Associates Ltd.
116 West Main Street, Suite 201
St. Charles, IL 60174

Corps Number: LRC 2010 00 638
KDSWCD File: 15e032
Final Plan Set Dated: 6.1.2015
KDSWCD Approved: 7.21.2015

Dear Ms. Paver:

I received your revised soil erosion and sedimentation control plan submittal for the Bliss Road over Blackberry Creek project located in Sugar Grove, Illinois. Thank you for incorporating our comments into the plan, it will improve the quality of protection for the natural resources, both on and off site. This letter and a set of stamped plans located at the construction office on site, will serve to certify that the erosion and sediment control plans meet Technical Standards.

I will visit the site several times during the course of construction to assess compliance with the specifications and will be glad to address specific issues that may arise during the course of construction.

Sincerely,

Candice Jacobs, CPESC
Resource Conservationist
Kane-DuPage Soil and Water Conservation District

ECC: Kim Kubiak, USACE

2315 Dean Street, Suite 100 St. Charles, Illinois 60175 (630) 584-7961x3 Fax: (630) 584-9534
www.kanedupageswcd.org

# Illinois Environmental Protection Agency

Bureau of Land • 1021 North Grand Avenue East • P.O. Box 19276 • Springfield • Illinois • 62794-9276

## Source Site Certification by Owner or Operator for Use of Uncontaminated Soil as Fill in a CCDD or Uncontaminated Soil Fill Operation LPC-662 Revised in accordance with 35 Ill. Adm. Code 1100, as amended by PCB R2012-009 (eff. Aug. 27, 2012)

This certification form is to be used by source site owners and operators to certify, pursuant to 35 Ill. Adm. Code 1100.205(a)(1)(A), that soil (i) was removed from a site that is not potentially impacted property and is presumed to be uncontaminated soil and (ii) is within a pH range of 6.25 to 9.0. If you have questions about this form, please telephone the Bureau of Land Permit Section at 217/524-3300.

This form may be completed online, saved locally, printed and signed, and submitted to prospective clean construction or demolition debris fill operations or uncontaminated soil fill operations.

## I. Source Location Information

(Describe the location of the source of the uncontaminated soil)

Project Name: Bliss Road Bridge Replacement  Office Phone Number, if available: 630-584-1170

Physical Site Location (Street, Road): Bliss Road from Capitol Drive extending 1550' north

City: Sugar Grove  State: IL  Zip Code:

County: Kane  Township: Sugar Grove

Lat/Long of approximate center of site in decimal degrees (DD.ddddd) to five decimal places (e.g., 40.67890, -90.12345):

Latitude: 41.780117 (Decimal Degrees)  Longitude: -88.439863 (-Decimal Degrees)

Identify how the lat/long data were determined:

☐ GPS ☐ Map Interpolation ☐ Photo Interpolation ☐ Survey ☒ Other

IEPA Site Number(s), if assigned: BOL: None  BOW: None  BOA: None

## II. Owner/Operator Information for Source Site

| Site Owner | | Site Operator | |
|---|---|---|---|
| Name: | Kane County Division of Transportation | Name: | SAME |
| Street Address: | 41W011 Burlington Road | Street Address: | |
| PO Box: | | PO Box: | |
| City: | St. Charles | City: | |
| State: | IL | State: | |
| Zip Code: | 60175 | Zip Code: | |
| Phone: | 630-584-1170 | Phone: | |
| Contact: | Carl Schoedel, P.E. | Contact: | |
| Email, if available: | schoedelcarl@co.kane.il.us | Email, if available: | |

This Agency is authorized to require this information under Section 4 and Title X of the Environmental Protection Act (415 ILCS 5/4, 5/39). Failure to disclose this information may result in: a civil penalty of not to exceed $50,000 for the violation and an additional civil penalty of not to exceed $10,000 for each day during which the violation continues (415 ILCS 5/42). This form has been approved by the Forms Management Center.

Project Name: Bliss Road Bridge Replacement

Latitude: 41.780117 (Decimal Degrees) Longitude: -88.439863 (-Decimal Degrees)

## Source Site Certification

### III. Descriptions of Current and Past Uses of Source Site

Describe the current and past uses of the site and nearby properties.* Attach additional information as needed. The description must take into account, at a minimum, the following for the source site and for nearby property: (1) use of the properties for commercial or industrial purposes; (2) the use, storage or disposal of chemical or petroleum products in individual containers greater than 5 gallons or collectively more than 50 gallons; (3) the current or past presence of any storage tanks (above ground or underground); (4) any waste storage, treatment or disposal at the properties; (5) any reported releases or any environmental cleanup or removal of contaminants; (6) any environmental liens or governmental notification of environmental violations; (7) any contamination in a well that exceeds the Board's groundwater quality standards; (8) the use, storage, or disposal of transformers or capacitors manufactured before 1979; and (9) any fill dirt brought to the properties from an unknown source or site.

Number of pages attached: 166

See attached PESA report for WBK Engineering dated June 28, 2013. Source project site is a rural road with combination open ditches and storm sewer system running runs through wooded and open forest preserve land. Review of historical aerial photos and topo maps dating back to 1939 indicate that the properties adjacent to the source site were undeveloped and farm land. The EDR Radius Map Report did not identify the site on any reviewed environmental databases. Site reconnaissance of the project site did not identify any of the above listed environmental concerns.

*The description must be sufficient to demonstrate that the source site is not potentially impacted property, thereby allowing the source site owner or operator to provide this certification.

### IV. Soil pH Testing Results

Describe the results of soil pH testing showing that the soil pH is within the range of 6.25 to 9.0 and attach any supporting documentation.

Number of pages attached: 5

See attached report for TSC job# L-82,538. Samples B-101, B-102 and B-103 were collected from the source site and analyzed for pH by First Environmental Laboratories, Inc., an ELAP/NELAC certified laboratory. The analytical results, dated May 12, 2015, indicate that the pH of the soil is 8.43, 8.90 and 8.14, respectively, which is within the acceptable range between 6.25 and 9.0.

### V. Source Site Owner, Operator or Authorized Representative's Certification Statement and Signature

In accordance with the Illinois Environmental Protection Act [415 ILCS 5/22.51 or 22.51a] and 35 Ill. Adm. Code 1100.205(a), I CARL SCHOEDEL (owner, operator or authorized representataive of source site) certify that this site is not a potentially impacted property and the soil is presumed to be uncontaminated soil. I also certify that the soil pH is within the range of 6.25 to 9.0. I further certify that the soil has not been removed from the site as part of a cleanup or removal of contaminants. Additionally, I certify that I am either the site owner or operator or a duly authorized representative of the site owner or site operator and am authorized to sign this form. Furthermore, I certify that all information submitted, including but not limited to, all attachments and other information, is to the best of my knowledge and belief, true, accurate and complete.

***Any person who knowingly makes a false, fictitious, or fraudulent material statement, orally or in writing, to the Illinois EPA commits a Class 4 felony. A second or subsequent offense after conviction is a Class 3 felony. (415 ILCS 5/44(h))***

- ○ Owner
- ◉ Owner's Duly Authorized Representative
- ○ Operator
- ○ Operator's Duly Authorized Representative

CARL SCHOEDEL
Printed Name

Signature

5-13-2016
Date

TESTING SERVICE CORPORATION

*Corporate Office*
360 S. Main Place, Carol Stream, IL 60188-2404
630.462.2600 • Fax 630.653.2988

*Local Offices:*
457 E. Gundersen Drive, Carol Stream, IL 60188-2492
630.653.3920 • Fax 630.653.2726

650 N. Peace Road, Suite D, DeKalb, IL 60115-8401
815.748.2100 • Fax 815.748.2110

1350 TriState Parkway, Unit 122, Gurnee, IL 60031-9135
847.249.6040 • Fax 844.767.4721

2235 23RD Avenue, Rockford, IL 61104-7334
815.394.2562 • Fax 815.394.2566

203 Earl Road, Suite A, Shorewood, IL 60404-9446
815.744.1510 • Fax 815.744.1728

# Report of Soils Explortation

Bliss Road Improvements

Sta. 10+35 to 28+50

Kane County, Illinois

## Wills Burke Kelsey Associates, Ltd.

*Geotechnical & Environmental Engineering*

*Construction Materials Engineering & Testing*

*Laboratory Testing of Soils, Concrete & Asphalt*

*Geo-Environmental Drilling & Sampling*

GEOTECHNICAL GROUP

# TABLE OF CONTENTS

May 13, 2015

L - 82,534

# REPORT SOILS EXPLORATION
# BLISS ROAD IMPROVEMENTS
# STA. 10+35 TO 28+50
# KANE COUNTY, ILLINOIS

PREPARED FOR:

WILLS BURKE KELSEY ASSOCIATES, LTD.

116 WEST MAIN STREET, SUITE 201

ST. CHARLES, ILLINOIS 60174

PREPARED BY:

TESTING SERVICE CORPORATION

457 EAST GUNDERSEN DRIVE

CAROL STREAM, ILLINOIS 60188

(630) 653-3920

May 13, 2015
L - 82,534

REPORT SOILS EXPLORATION
BLISS ROAD IMPROVEMENTS
STA. 10+35 TO 28+50
KANE COUNTY, ILLINOIS

## 1.0 INTRODUCTION

This report presents results of a soils exploration performed for Bliss Road Improvements in Kane County, Illinois. These geotechnical engineering services are been provided in accordance with TSC Proposal No. 52,350 and the Subconsultant Agreement with Wills Burke Kelsey Associates, Ltd. dated October 24, 2014. TSC previously performed a subsurface exploration for the associated bridge replacement under TSC Project No. L-75,421R with report dated March 1, 2012, limited results of which are incorporated herein.

Current plans call for improvements to Bliss Road (County Highway 78) both north and south of the bridge over Blackberry Creek, i.e. extending north from Capital Drive. The improvements lie between Sta. 10+35 to 28+50 for a total distance of approximately 1815 lf. Bliss Road currently consists of 2 traffic lanes of asphalt pavement, with a left hand turn lane at Capitol Drive. It also has narrow gravel shoulders and open ditch drainage. It is understood that the roadway is to be raised up to 3 feet between Sta. 11+50 to 19+00 as part of the bridge replacement. Minor grade changes are also planned between Sta. 25+00 to 27+00. Plans also include a compensatory storage basin on the west side of Bliss Road just south of Blackberry Creek between approximate Sta. 14+00 to 15+00.

Work performed for this most recent study included performing a total of four (4) soil borings and five (5) pavement cores. This report presents results of the field investigation and laboratory testing and provides recommendations for design and construction of the roadway improvements. Specifically addressed are treatment of unsuitable or unstable subgrade soils, a discussion of the subgrade support characteristics for pavement design as well as compensatory storage basin construction.

## 2.0 SITE DESCRIPTION AND GEOLOGY

The project site is located in south-east Kane County. Bliss Road crosses Blackberry Creek approximately ¼ mile northeast of Illinois Route 47, bordering the Southeast quadrant of Section 9 and the Northeast quadrant of Section 16 in Sugar Grove Township (T 38 N, R 7 E). The existing roadway and bridge accommodate two lanes of traffic trending southwest to northeast.

Bliss Road is not located over any mapped mines according to the Illinois State Geological Survey. Geologically the project site lies within surficial soil deposits of glacial outwash, being flanked by the St. Charles Moraine to the west and the Marseilles-Huntley Moraine to the east. The outwash soils are part of the Batavia Member of Henry Formation, generally consisting of well-sorted sand and gravel deposited by glacial meltwater streams. Within the floodplain of Blackberry Creek, alluvial deposits consisting of poorly sorted silt and sand often overlie the outwash materials.

The uppermost soils across many portions of this area consist of 1 to 2 feet of wind-blown loess which has been weathered, decomposed and otherwise modified such that it presently consists of a silty clay of relatively high plasticity. Although the outwash plain has moderate relief, peat and soft or organic clay deposits may be found in floodplain areas. Dolomitic limestone bedrock of Silurian age is expected to be overlain by 30 to 50 feet of overburden in the site vicinity.

Included in the Appendix is the Pedological Soil Map for the site as prepared by the Natural Resources Conservation Service. A review of this map indicates areas along the immediate vicinity of the roadway are classified as the following soil types:

| | |
|---|---|
| 193 B | Mayville Silty Loam, 2 to 5% slopes |
| 512 B | Danabrook Silt Loam, 2 to 5% slopes |
| 512 C2 | Danabrook Silt Loam, 5 to 10% slopes |
| 527 D2 | Kidami Loam, 6 to 12% slopes, eroded |
| 618 E | Senachwine Silt Loam, 12 to 20% slopes |
| 3076 A | Otter Silt Loam, 0 to 2% slopes, frequently flooded |

The Natural Resources Conservation Service rates the Silt Loam and Silty Clay Loam soils which predominate as Poor road fill material with a “very limited” rating for local roads and streets due to

wetness, low strength, frost action and shrink/swell tendencies. There were no mapped areas of organic "muck" type deposits within the project limits.

## 3.0 PRECIPITATION SUMMARY

The borings were drilled during the month of April 2015. Observations made of precipitation during the six months preceding our field work are summarized in the following tables. These observations were obtained at the Chicago Aurora Municipal Airport weather station located approximately 2 miles west of the site.

| **Precipitation Data** (in inches) | | |
|---|---|---|
| **Month** | **Total** | **Departure From Normal** |
| October, 2014 | 2.33 | -0.8 |
| November, 2014 | 1.15 | -2.0 |
| December, 2014 | 0.71 | -1.3 |
| January, 2015 | 0.68 | -0.8 |
| February, 2015 | 0.06 | -1.6 |
| March, 2015 | 0.42 | -1.8 |

Based on the above data, it is anticipated that groundwater levels and soil moisture for the borings were most likely below the normal seasonal conditions due to lower than normal precipitation during the months preceding the drilling of the borings.

## 4.0 FIELD INVESTIGATION AND LABORATORY TESTING

Four (4) soil borings and five (5) pavement cores were performed as part of this exploration for Bliss Road. The subgrade borings 101 and 102 were extended to 10 feet below existing grade, with Borings 103 and 104 made 15 feet deep for the proposed compensatory storage basin. The boring locations were selected and marked in the field by TSC. Ground surface elevations at the borings were provided by Willis Burke Kelsey Associates. Reference is made to the enclosed Boring Location Plan for the drilling layout, ground surface elevations at the borings also being shown.

The pavement cores taken along Bliss Road and Capitol Drive were obtained using a 4" diameter core barrel with an impregnated diamond matrix bit. Granular base course materials and upper subgrade materials were then sampled continuously using a Geoprobe system by driving a split-spoon sampler to a depth of approximately 3 feet below the top of pavement. The core holes were immediately backfilled and patched to preclude possible hazards to the public.

The pavement cores and aggregate samples were examined by a construction materials technician in the laboratory. These detailed results are shown on the attached sheet titled "Pavement Core Results". Bituminous layers are listed individually, including average thickness and condition comments. Total asphalt and base course thicknesses are also given, rounded to the nearest ¼" and 1", respectively. These results of the subgrade samples are summarized in the attached sheet titled “Subgrade Test Results” with the subgrade description and laboratory test data.

The soil borings were all drilled and samples tested according to currently recommended American Society for Testing and Materials specifications. The subgrade borings were sampled continuously to 5 feet and at no greater than 2½-foot intervals thereafter. The remaining borings were sampled at 2½-foot intervals to boring completion depths. The soil samples were taken in conjunction with the Standard Penetration Test, for which driving resistance to a 2" split-spoon sampler (N value in blows per foot) provides an indication of the relative density of granular materials and consistency of cohesive soils. Water level readings were taken during and following completion of drilling operations, with the boreholes then immediately backfilled and those in pavement areas patched at the surface as to not to pose a hazard to the public.

All soil samples were examined in the laboratory to verify field descriptions and to classify them in accordance with the Unified and AASHTO Soil Classification Systems. Laboratory testing included moisture content determinations for all cohesive and intermediate (silt or loamy) soil types along with dry unit weight determinations on cohesive fill. An estimate of unconfined compressive strength was obtained for all cohesive soils using a calibrated pocket penetrometer, with actual measurements of unconfined compressive strength performed on representative samples of native clay.

For classification purposes and to verify field identifications, one (1) Atterberg limit test and one (1) grain-size analysis were performed on a representative subgrade sample. Results of these tests are summarized on Soil Test Data Sheets which are included in the Appendix.

Reference is made to the boring logs in the Appendix of this report which indicate subsurface stratigraphy and soil descriptions, results of field and laboratory tests, as well as water level observations. Definitions of descriptive terminology are also included. The Soil Test Data sheets are attached giving results of laboratory testing. While strata changes are shown as a definite line on the logs, the actual transition between soil layers will probably be more gradual.

## 5.0 DISCUSSION OF TEST DATA

### 5.1 Pavement Cores

Capitol Drive

Core 201 was taken along Capitol Drive, approximate 80' right of the centerline of Bliss Road. The core revealed 12.5 inches bituminous pavement overlying 8 inches granular base course materials. Examination of the asphalt core sample revealed it was comprised of 2 bituminous surface and 2 binder courses. The subgrade soils found directly underlying the pavement section consisted of Sandy Loam materials.

Bliss Road

Cores 202 - 205 were taken along Bliss Road typically, revealing 10½ to 15½ inches bituminous pavement with approximately 6 inches found at C-203. Cores 204 and 205 were found overlying 7 to 12 inches granular base course materials which were absent at Cores 202 and 203.

Examination of the asphalt core samples revealed that the upper portion of the cores were comprised of 3 to 6 bituminous surface courses as well as a binder course in C-202. The bottom portion of the cores were comprised of 1 to 2 emulsified bituminous courses, with 1 to 2 layers of chip and seal in Cores 202, 204 and 205. It should be noted that a surface course in C-203 was in a deteriorated condition, with the emulsified bituminous concrete and chip and seal in Cores 202 and 204 being in a partially deteriorated condition. It should also be noted that the upper bituminous layers were occasionally not bonded in C-205.

The subgrade soils found directly underlying the pavement section in Cores 202 and 203 consisted of Sandy Loam. The subgrade soils found directly underlying the pavement section at Cores 204 and 205 consisted of Clay soils in a stiff condition. The cohesive soils had pocket penetrometer readings on the

order of 1.0 tons per square foot (tsf), with moisture contents of 22 and 35 percent, at Cores 20 and 205, respectively.

### 5.2 Roadway Borings 101 & 102

Boring 101 was drilled along Bliss Road, revealing on the order of 8 inches bituminous concrete, overlying approximately 4 inches granular base materials. This pavement thickness was estimated from the disturbed side of the augered borehole and should be considered approximate. Boring 102 was drilled along the gravel shoulder of Bliss Road and encountered approximately 6 inches sand and gravel at the surface.

Clay and Sandy Loam Fill materials were found underlying the pavement section and/or gravel shoulder in the borings, extending on the order of 3 feet below existing grade. The sample of cohesive Fill had a dry unit weight of 107 pounds per cubic foot (pcf) at a moisture content of 19 percent. It also had a low pocket penetrometer reading (for fill) of 1.5 tsf.

Medium stiff to very stiff native Clay and Clay Loam soils otherwise predominated below the Fill materials in Borings 101 and 102, extending on the order of 8 feet below existing grade. They exhibited unconfined compressive strengths ranging from 0.75 to 2.5 tsf at moisture contents varying from 17 to 26 percent. Medium dense Sandy Loam materials were found below the cohesive materials in the borings, extending to boring completion depth (10 feet deep). They exhibited SPT N-values ranging from 14 to 16 blows per foot (bpf).

### 5.3 Basin Borings 103 & 104

Surficial topsoil (native and/or fill) was on the order of 6 inches thick at Borings 103 and 104. Clay Fill materials were found underlying the clayey topsoil materials in B-104, extending on the order of 2 feet below existing grade. The sample of cohesive Fill had a dry unit weight of 109 pcf at a moisture content of 19 percent. It also had a low pocket penetrometer reading (for fill) of 1.5 tons per square foot (tsf).

Very stiff native Clay soils were found below the topsoil layer in B-103, extending 2 feet deep. It had unconfined compressive strength of 3.0 tsf at a moisture content of 16 percent. Sand, Sandy Loam

and Silty Loam materials in a medium dense condition were otherwise found extending to boring completion depths (15 feet deep). They had SPT N-values ranging from 10 to 23 blows per foot (bpf).

### 5.4 Groundwater Observations

Free water was initially encountered at a depth of 8 to 13 feet below existing grade in Borings 103 and 104. Upon completion of drilling operations, the water level B-104 had remained constant while rising 3 feet in B-103. Borings 101 and 102 were "dry" both during and upon completion of drilling operations. Please note that 24 hour water level observations were not taken for this study due to "open hole" hazards and concerns for public safety. The actual phreatic surface may have been intercepted by some borings even though "dry" groundwater observations were made.

### 5.5 Additional Laboratory Testing

One (1) Atterberg limit determinations and one (1) grain size analysis were performed on cohesive materials encountered in the upper 3 feet at Boring 101. The Sandy Loam soils revealed a Liquid Limit of 25, Plastic Limit of 15 and Plasticity Index of 10.

## 6.0 CONCLUSIONS AND RECOMMENDATIONS

### 6.1 Subgrade Support Value for Pavement Design

Included in the Appendix is a Subgrade Support Rating (SSR) chart where one (1) representative soil sample obtained from the upper subgrade has been plotted. It plotted within the "Poor" rating. Based on this result and subgrade soils generally encountered in the remaining borings, it is recommended that an SSR rating of "Poor" be used for all areas of this project.

Work performed for this preliminary study did not include performing any IBR tests on representative subgrade samples. However, the IBR value used for pavement design is typically based on the worst soil type (lowest IBR) within the limits of the project. Based on the data obtained from the subgrade borings, an IBR value no greater than 2.0 is recommended for pavement design.

### 6.2 Topsoil Stripping

Normal topsoil stripping of all vegetation and root zone materials will be required for widening beyond the existing shoulder areas along Bliss Road, i.e. prior to placement of any fill materials. While topsoil type materials were not specifically encountered, for estimation of contract quantities a nominal root zone stripping depth on the order of 6 inches is recommended. The topsoil stripped may be stockpiled, sorted and reused for landscaping improvements.

### 6.3 Frost Susceptible Soils

Boring 101 encountered Sandy Loam type soils in the upper subgrade. The IDOT criteria for frost susceptible subgrade include soils with plasticity index (PI) < 12 and greater than 65 percent silt and fine sand content. The samples tested from Boring 101 do not fail this criteria. However, it is very possible that some localized areas will be found during construction which fail the IDOT criteria for frost susceptibility. If such areas are found during construction, then consideration may be given to performing a 6-inch undercut and replace with Aggregate Subgrade Improvement.

### 6.4 Guidelines for Subgrade Remediation

Once initial stripping operations have been completed, exposed subgrade soils should be tested with a Cone Penetrometer in accordance with the IDOT Subgrade Stability Manual to determine the remedial treatment depths. Observations of heavy construction vehicles on subgrade areas will help to delineate areas which have deficient strength.

All earthwork, new embankment construction and subgrade preparation should be in accordance with the District One Embankment 1 Special Provisions. Compaction for subgrade materials should be to at least 95 percent Standard Proctor density (AASHTO T-99) in accordance with article 205.06 of the 2012 IDOT Standard Specifications for Road and Bridge Construction. Remedial work for unstable subgrade should consist of discing, aerating, and recompacting exposed subgrade soils, as provided for in Section 301.04 of the 2012 IDOT Standard Specifications for Road and Bridge Construction. Depending upon grading requirements and specific site conditions, solutions to a persistent pumping problem may include use of geotextile stabilization fabric or geogrid product, removal of unstable soils and replacement with granular backfill, construction of trench drains or a combination thereof.

The subgrade stability will be influenced by such factors as surface drainage provided by the Contractor as well as the prevailing temperature and precipitation experienced during construction. The amount of trafficking and subgrade disturbance created by heavy construction vehicles will also have an influence on subgrade stability. The Contractor should try to make full use of inlets or ditches in order to maintain positive drainage for subgrade areas. Temporary drainage ditches or pumping from depressional areas should be provided as needed during construction in order to prevent ponded water from affecting the stability of the roadway.

Aggregate Fill may be required for bridging over weak subgrade soils which demonstrate persistent stability problems. Aggregate materials needed beneath the Improved Aggregate Subgrade layer should consist of IDOT Aggregate Subgrade Improvement materials (CA-2, CA-6, CA-10, or CS-01) in accordance with the District One Aggregate Subgrade Improvement Special Provision. The use of this material is to create a stable working platform due to the presence of unsuitable/unstable soils.

The need for removal and replacement of unstable subgrade with Aggregate Subgrade Improvement should be based on direct observations made during construction by an approved soils inspector. Once the subgrade soils are exposed proof-rolling or cone penetrometer testing procedures can be conducted and treated in accordance with Article 301.04 of the standard specifications and the undercut guidelines in the IDOT Subgrade Stability Manual.

Note that the Aggregate Subgrade Improvement materials are to be placed beneath the granular subbase layer and are to be used only as a bridging layer over soft, pumpy subgrade or for replacement of unsuitable soils. The use of geogrid can help to reduce the depth of undercutting and aggregate Fill required. All quantities of Aggregate Subgrade Improvement materials not required during construction should be deleted from the construction costs. Normal IDOT procedure requires cone penetrometer testing immediately prior to undercutting subgrade in order to document the need for the undercut and replacement Fill.

A Shrinkage Factor on the order of 15 percent should be used to correlate the volume of earth borrow materials for use as new earth embankment or subgrade Fill. Unsuitable organic soils should not be included as suitable earth Fill.

## 6.5 Estimated Quantities for Stripping and Aggregate Fill

Summarized in the following table is the existing grade at the boring locations as well as the station limits. The subgrade elevation is also shown, measured from the proposed grade at each boring to the estimated subgrade elevation (at about 2.0 feet below the top of pavement). The soil conditions at the subgrade level at each boring location are also identified as well as the estimated quantities of undercut/Aggregate Subgrade Improvement materials below proposed pavement section that is recommended. Note that the Aggregate Subgrade Improvement materials are to be placed beneath the granular subbase layer and are to be used only as a bridging layer over soft, pumpy subgrade or for replacement of unsuitable organic soils.

**Estimated Quantities for Undercutting and Aggregate Subgrade Improvement Replacement Fill**

| Boring No. | Station Limits | | Existing Grade | Subgrade Elevation* | Estimated Undercut | Soil Conditions at Subgrade Level |
|---|---|---|---|---|---|---|
| | From | To | | | | |
| Bliss Road - Sta. 10+35 to 28+50 | | | | | | |
| B-2 | 10+35 | 14+25 | 698.9 | 698.0 | NR | Existing Crushed Stone Base |
| SB-2 | 14+25 | 16+25 | 691.6 | 693.0 | NR | 1.5 feet of New Fill over Existing Crushed Stone |
| SB-1 | 16+25 | 18+25 | 689.3 | 690.0 | NR | 2.0 feet of New Fill over Existing Granular Base |
| B-1 | 18+25 | 21+35 | 683.7 | 687.0 | NR | 3.5 feet of New Fill over Existing Granular Base |
| B-101 | 21+35 | 24+50 | 690.4 | 689.0 | GF | Fill - Brown Sandy Loam, moist A-4 N = 12 |
| B-102 | 24+50 | 28+50 | 693.7 | 692.0 | 6 inches | Fill - Brown & black Sandy Loam, moist A-2-4 N = 7 |

* Subgrade elevation estimated from plan and profiles provided, approximately 2.0 feet below top of proposed pavement; rounded to the nearest 0.5 foot.

NR Undercutting and/or Aggregate Subgrade Improvement materials are not required at boring location. However, subgrade soils will likely require reduction in moisture content and recompacted prior to the pavement construction.

GF Geofabric is recommended at the bottom of pavement section.

### 6.6 Underdrain Placement

Consideration should be given to the installation of underdrains in areas of pavement widening as well as in new pavement areas. They should consist of longitudinal underdrains which are placed at the outside edges of the proposed roadway widening, extending 50 to 100-foot in both directions of outlets. Wherever possible, it is best to install transverse underdrains at the low points of undercut areas or otherwise at the low points of the roadway profile. A maximum spacing interval of 300 to 500 feet between transverse underdrains is recommended. All underdrains should outlet into ditches or storm sewers in such manner as to allow positive drainage and should be installed to a depth of at least 30 inches below pavement grade. Check Sheet #19 of the Supplemental Specifications and Recurring Special Provisions (effective January 1, 2015) is generally regarded as the most effective procedure for underdrain installation.

### 6.7 Basin Construction

Borings 103 and 104 were drilled in the proposed compensatory storage basin area planned on the west side of Bliss Road and south of Blackberry Creek. Intermediate and granular materials were found below a depth of 2 feet in the borings. These intermediate/granular materials were in a wet to saturated condition below a depth of 8 to 10 feet, or between Elevations 681 to 684. However, it should be noted that changes in the groundwater level may occur due to seasonal variations in rainfall, fluctuations in Blackberry Creek and other localized conditions.

These intermediate/granular materials are expected to be unstable along the side slope excavations, to slough relatively quickly when exposed. If allowed to occur, running soil conditions may lead to loss of ground and settlement in surrounding areas. It is recommended that any intermediate materials be removed from the side slopes in order to prevent future sloughing. Replacement materials may consist of crushed stone or crushed gravel between ¼ to 3 inches in size and containing no fines; IDOT gradations CA-1 and CA-7 meet these criteria. The replacement materials should also be at least 12 to 24 inches thick, in order to stabilize the side slopes. Flatter slopes on the order of 6H:1V may also be required.

The cohesive materials found in the upper 2 feet at the borings should provide a suitable source for on-site borrow. However, the underlying Silty Loam soils found in the borings are not considered suitable in the upper 3 feet of roadway embankment, i.e. considered frost susceptible soil per IDOT criteria. It is estimated that the cohesive soils used as engineered fill will require that the in-situ moisture be reduced by a few to 5 percentage points. This reduction in moisture content is typically achieved by spreading the material in a single lift and aerating with a continuous discing operation. For obvious reasons it will work best in hot, dry and windy weather.

## 7.0 CLOSURE

It is recommended that full-time technician services be provided by Testing Service Corporation personnel during construction, so that the soils at undercut and subgrade levels can be verified and tested. In addition pavement construction should be closely checked and monitored for compliance with the recommended procedures and specifications.

The analysis and recommendations submitted in this report are based upon the data obtained from the four (4) additional soil borings and three (3) pavement cores along Bliss Road Capital Drive as well as the four (4) original soil borings and four (4) pavement cores taken as part of the bridge repalcement. This report does not reflect any variations which may occur between these borings or elsewhere on the site, the nature and extent of which may not become evident until during the course of construction. If variations are then identified, recommendations contained in this report should be re-evaluated after performing on-site observations.

Please call if there are any questions in regard to this matter or if we may be of further service.

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# Structure Geotechnical Report

## Bridge Replacement

## Bliss Road Over Blackberry Creek

## Section 08-00058-01-BR

## Kane County, Illinois


## Wills Burke Kelsey Associates, Ltd.

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# KANE COUNTY, ILLINOIS

IDOT S.N. 045-3006 (EXISTING)
IDOT S.N. 045-3030 (PROPOSED)

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March 1, 2012
L - 75,421 (revised)

STRUCTURE GEOTECHNICAL REPORT
BRIDGE REPLACEMENT
BLISS ROAD OVER BLACKBERRY CREEK
SECTION 08-00058-01-BR
KANE COUNTY, ILLINOIS

## 1.0 INTRODUCTION

This report presents results of the subsurface investigation performed for the replacement of the Bliss Road bridge over Blackberry Creek in Kane County, Illinois. These geotechnical services were provided in accordance with TSC Proposal No. 42,706A dated March 11, 2010 and the attached General Conditions, incorporated herein by reference.

The existing bridge over Blackberry Creek (Structure No. 045-3006) was originally built in 1931 and reconstructed in 1979. During reconstruction the bridge was widened and approach spans added using reinforced concrete channel beams. The bridge currently consists of a single-span precast prestressed concrete (PPC) deck beam supported on spread footings. The deck is approximately 92 feet back-to-back of abutments and 40 feet wide, accommodating two lanes of traffic with shoulders.

The replacement bridge (Structure No. 045-3030) will consist of a single-span structure with integral type abutments, having an overall length of 83'-8" back-to-back of abutments and 92 feet back-to-back of approach spans . The overall width of the bridge will be 51'-8" out-to-out which includes two 12' lanes, a 12' median and shoulders of 5'-10" and 6'-8", on the east and west sides, respectively. The abutments are to be supported on piles driven to refusal. Staged construction is planned for the bridge replacement, Stage I comprising demolition/construction of the approximate left/eastern half of the structure and Stage II of the right/western half. Pavement reconstruction and widening is also planned for this project. The limits of the reconstruction will extend for a short distance north and south of the bridge.

## 2.0 SITE DESCRIPTION AND GEOLOGY

The project site is located in south-east Kane County. Bliss Road crosses Blackberry Creek approximately ¼ mile northeast of Illinois Route 47, bordering the southeast quadrant of Section 9 and the northeast quadrant of Section 16 in Sugar Grove Township (T 38 N, R 7 E). The existing roadway and bridge accommodate two lanes of traffic trending southwest to northeast.

The Bliss Road bridge structure is not located over any mapped mines according to the Illinois State Geological Survey. Geologically the project site lies within surficial soil deposits of glacial outwash, being flanked by the St. Charles Moraine to the west and the Marseilles-Huntley Moraine to the east. The outwash soils are part of the Batavia Member of Henry Formation, generally consisting of well-sorted sand and gravel deposited by glacial meltwater streams. Within the floodplain of Blackberry Creek, alluvial deposits consisting of poorly sorted silt and sand often overlie the outwash materials. The uppermost soils across many portions of this area consist of 1 to 2 feet of wind-blown loess which has been weathered, decomposed and otherwise modified such that it presently consists of a silty clay of relatively high plasticity. Although the outwash plain has moderate relief, peat and soft or organic clay deposits may be found in floodplain areas. Dolomitic limestone bedrock of Silurian age was encountered between Elevations 654 ( 35 feet deep) at SB-1 and 658 (34 feet deep) at SB-2.

Included in the Appendix is the Pedological Soil Map for the site as prepared by the Natural Resources Conservation Service. A review of this map indicates all areas along the immediate vicinity of the roadways are classified as the following soils.

512B Danabrook Silt Loam, 0 - 2% slopes
512C2 Danabrook Silt Loam, 5 - 10% slopes
618E Senachwine Silt Loam, 12 to 20% slopes
3076A Otter Silt Loam, 0 - 2% slopes, frequently flooded

The Natural Resources Conservation Service rates these soils as having very limited use for local roads and streets and poor suitability as roadfill material due to wetness, low strength, frost action, shrink/swell tendencies. There were no areas of organic “muck” type deposits within close proximity to the project.

## 3.0 PRECIPITATION SUMMARY

The soil borings for this project were drilled on August 2-4, 2010. Observations made of precipitation during the five months preceding our field work are summarized in the following table. These observations were obtained at the Aurora weather station, located about 7 miles east of the project site.

**Precipitation Data**
(in inches)

| Month | Total | Departure From Normal |
|---|---|---|
| February, 2010 | 0.5 | -1.0 |
| March, 2010 | 1.5 | -1.1 |
| April, 2010 | 2.3 | -1.6 |
| May, 2010 | 6.6 | +2.7 |
| June, 2010 | 7.8 | +3.4 |
| July, 2010 | 6.5 | +2.1 |

Based on the above data, it is anticipated that groundwater levels and soil moisture were probably above normal seasonal conditions due to higher than normal precipitation during the proceeding three months prior to drilling.

## 4.0 FIELD INVESTIGATION AND LABORATORY TESTING

Work performed for this study included two structure borings (SB-1 and SB-2) in the area of the proposed abutments and one boring along the edge of Blackberry Creek for stream scour (SC-1). Two (2) bridge deck cores (C-101 and C-102) were also taken on the existing Bliss Road bridge for asbestos testing. Two roadway borings (B-1 and B-2) and four pavement cores (C-1 through C-4) were taken for the roadway widening and reconstruction. Reference is made to the Boring Location Plan included in the Appendix of this report.

Two-inch diameter bridge deck cores were obtained at two (2) locations using an electric drill and core barrel containing diamond cutting bits. The bituminous concrete pavement core samples were examined by a materials technician in the laboratory. The samples were then sent to TEM

Incorporated in Glen Ellyn, Illinois (NVLAP Lab ID 101130-0) for asbestos testing. Appended to this report is a copy of their test results.

The pavement cores were obtained using a 4" diameter core barrel containing diamond cutting bits. Granular base course materials and subgrade soils were also sampled to a depth of approximately 36 inches below the top of pavement. Core holes were patched upon completion. The pavement cores and aggregate samples were examined by a materials technician in the laboratory. These results are summarized in the attached sheet titled “Pavement Core Results”.

The structure borings were extended 35 to 40 feet below existing grade using conventional drilling equipment, with roadway and scour borings extending 10 and 20 feet deep, respectively. The borings were drilled, sampled and tested in accordance with IDOT structure boring criteria. Soil sampling was performed in conjunction with the Standard Penetration Test, for which driving resistance to a 2" split-spoon sampler (in blows per 6" interval) provides an indication of the relative density of granular materials and consistency of cohesive soils. The structure borings were extended to the bedrock surface, with a 10-foot rock core also being obtained at SB-1 using an NX size core barrel (2.06" inside diameter). It should be noted that the SPT samples were obtained using an automatic hammer which has relatively high energy. Unconfined compressive strength values were determined using a modified Rimac spring tester. Water level readings were taken during and following completion of drilling operations.

Soil samples were examined in the laboratory to verify field descriptions and to classify them in accordance with the AASHTO Classification System and the Illinois Department of Transportation Classification Chart. Laboratory testing included moisture content determinations for all cohesive and intermediate (silt or loamy) soil types. An estimate of unconfined compressive strength was obtained for all inorganic native clay soils using a calibrated pocket penetrometer, with actual measurements of unconfined compressive strength being performed by Rimac methods.

For classification purposes and to verify field identifications, three (3) Atterberg limit tests and six (6) grain-size analyzes were performed on representative soil samples. Additionally, one (1) sample was tested for organic content. Results of these tests are summarized in a separate table included in the Appendix.

Reference is made to the boring logs in the Appendix of this report which indicate subsurface stratigraphy and soil descriptions, results of field and laboratory tests, as well as water level observations. Definitions of descriptive terminology are also included. While strata changes are shown as a definite line on the logs, the actual transition between soil layers will probably be more gradual.

## 5.0 DISCUSSION OF RESULTS

### 5.1 Pavement Composition (C-1 through C-4)

Cores 1-4 were taken on Bliss Road north and south of the existing bridge. They revealed 12 to 14 inches bituminous concrete, overlying 6 to 12 inches crushed and uncrushed stone base. Underlying subgrade materials at Cores 1 and 2 consisted of brown Clay and Clay Loam Fill materials, with Sandy Loam Fill materials present at Cores 3 and 4. Examination of the core samples revealed that Cores 1, 3 and 4 were comprised of 3 to 5 bituminous surface and/or binder layers, with Core 2 comprised of 6 bituminous surface and/or binder layers and 4 asphalt stabilized base course and/or chip and seal layers.

### 5.2 Bridge Abutment Borings (SB-1 and SB-2)

Borings SB-1 and SB-2 were drilled at the approximate abutment locations. Structure Boring 1 on Bliss Road revealed about 12 inches bituminous concrete overlying 24 inches Sand and Gravel subbase material. Structure Boring 2 on the shoulder of Bliss Road revealed 12 inches crushed stone materials. The pavement and granular thicknesses were estimated from the side of the augered boreholes and should be considered approximate.

Clay Loam fill materials were encountered below the granular shoulder and pavement section, extending approximately 5 to 8 feet below existing grade. Samples of the cohesive fill had unconfined compressive strengths ranging from 0.25 to 0.6 tons per square foot (tsf) at moisture contents of 16 to 24 percent.

Relatively soft and/or very moist native Clay and Clay Loam were found directly underlying the Fill materials, extending 8 to about 15 feet in depth. These uppermost native soils had unconfined compressive strengths ranging from 0.4 to 1.1 tsf at moisture contents of 20 to 40 percent.

Medium dense to very dense Sand and Gravel, Sand and Sandy Loam materials were otherwise predominated, extending to approximately 35 and 37 feet below existing grade at Borings SB-1 and SB-2, respectively. These granular and intermediate materials had SPT N-values generally ranging from 10 to 60 blows per foot (bpf).

The borings encountered Weathered/Fractured Bedrock or Possible boulder zone materials at approximately 34 feet below existing grade, or between Elevations 655 to 658. The drilling operation were able to advance 1 to 6 feet into these materials before virtual auger refusal was met. Competent bedrock was encountered at between Elevations 651.6 and 654.3, with a 10-foot rock core taken at SB-1 resulting in 95 percent recovery. The rock core was described as a dense gray Dolomite. A Rock Quality Designation (RQD) value, i.e. the sum of the lengths of sound core pieces greater than 4 inches divided by the core run length, was determined to be 42 percent and is categorized as being "Poor" quality.

### 5.3 Scour Boring (SC-1)

Boring SC-1 was performed on the northeast bank of Blackberry Creek near the proposed north abutment location. Relatively soft Clay Loam materials were encountered in the upper 10 feet along with a loose and very moist Sandy Loam deposit. The cohesive materials had pocket penetrometer readings ranging from 0.5 to 1.0 ton per square foot (tsf) at moisture contents from 14 to 25 percent, with the intermediate materials having a moisture content of 52 percent. Medium dense to dense Sandy Loam and Sand/Gravel materials were otherwise found extending 20 feet in depth (boring completion).

### 5.4 Roadway Borings (B-1 and B-2)

Borings 1 and 2 were performed for the roadway widening and reconstruction of Bliss Road. They revealed on the order of 13 inches bituminous concrete overlying 8 to 11 inches crushed stone

subbase materials. Clay Loam Fill as well as Sand and Gravel Fill was encountered below the pavement section in Boring 1, extending 5½ feet below existing grade. The cohesive Fill had a pocket penetrometer reading of 4.5+ tsf and a moisture content of 14 percent. Loose to medium dense native Sandy Loam and Silty Loam materials otherwise predominated to boring complection depths of 10 feet.

### 5.5 Additional Laboratory Testing

Three (3) Atterberg limit determinations were performed on cohesive and intermediate materials encountered in SC-1, SB-1 and SB-2. They revealed liquid limits of 15 to 20, plastic limits of 9 to 13 and plasticity indices of 6 to 8. These results can also be seen on the Soil Test Data sheet attached.

### 5.6 Bridge Deck Core for Asbestos Determination

Two (2) bridge deck cores (C-101 and C-102) were taken on opposite sides of the existing Bliss Road bridge crossing over Blackberry Creek. Cores 101 and 102 revealed 4¾ and 7 inches of bituminous concrete overlying the P.C. concrete bridge deck, respectively.

The core samples were sent to TEM Incorporated in Glen Ellyn, Illinois (NVLAP Lab ID 101130-0) to perform the asbestos testing. The cores were broken down by using the Gravimetric Reduction Method to release any potential asbestos fibers. The materials were then analyzed by using Polarized Light Microscopy (PLM) to determine if asbestos fibers were present. Enclosed with this report is a copy of their data sheet of test results as well as IDOT form BLR 10220. The test results did not detect any asbestos containing material in the asphalt core samples.

## 6.0 Conclusions and Recommendations

### 6.1 Seismic Considerations

The project site is located within southeastern Kane County, lying just outside/west of the limits of the City of Aurora. The Spectral Acceleration values are expressed as fraction of gravity based on 7% probability of exceedance in 75 years. In accordance with Appendix 3.15.A of the IDOT Bridge Manual and the LRFD Code, following is a summary of seismic information:

Soil Site Class: D

Seismic Performance Zone (SPZ): 1

Design Spectural Acceleration at 1.0 sec (S D1): 0.090g

Design Spectural Acceleration at 0.2 sec (S DS): 0.164g

6.2 Scour Potential

The Bliss Road bridge reconstruction will have new abutment foundations bearing at Elevation 684.37 and 686.06, located behind the existing abutments on the north and south of Blackberry Creek, respectively. The bottom of the streambed is shown at Elevation 679.25 on the proposed bridge elevation drawing. Boring SC-1 was drilled on the northeast side of the existing bridge, the ground surface there being at Elevation 690.5.

Relatively soft and/or very moist Clay Loam and loose Sandy Loam materials were encountered in SC-1, extending to approximately 10½ feet or Elevation 680.0. Medium dense to dense Sandy Loam, Sand/Gravel and Sand materials were encountered underlying these deposits. Grain-size analyses were performed on three representative samples from Boring SC-1, with D50 particle sizes summarized in the following table.

| Boring | Sample Location | | D50 Particle Size | Soil Classification |
|---|---|---|---|---|
| | Depth (Ft) | Elevation | | |
| SC-1 | 5.5 - 8.0 | 685.0 - 682.5 | 0.25 mm | Sandy Loam A-2-6 |
| | 10.5 - 13.0 | 680.0 - 677.5 | 0.8 mm | Sandy Loam A-2-6 |
| | 15.5 - 18.0 | 675.0 - 672.5 | 20 mm | Sand and Gravel A-1-a |

Sandy Loam encountered above Elevation 675 in Boring SC-1 had average D50 particle size of 0.5 mm. The Sand and Gravel present below Elevation 675 had a D50 particle size of 20 mm. Based on the soil types encountered in the borings, the potential for scour may be significant for this bridge. It is understood that the abutments will be protected with rip-rap to protect against scour.

## 6.3 Bridge Structure

The new bridge will consist of a single-span structure with integral abutments. It will have an overall length of 83'-8" back to back of abutments and a width of 51'-8" out to out. The new bridge will be widened to accommodate two (2) lanes of traffic, a 12' median and shoulders.

The possibility of supporting the new bridge structure on spread footings was evaluated. Structure Borings 1 and 2 drilled for the proposed abutments revealed relatively soft and occasionally very moist Clay and Clay Loam (Fill and native) materials extending approximately 8 to 15 feet below existing grade. Based on the nature and characteristics of these materials as well as anticipated bearing loads for the proposed bridge substructures, it is our opinion that spread footings do not represent a feasible foundation option.

The possibility of supporting the new bridge structure on drilled shafts (caissons) was also evaluated. Relatively thick deposits of Sand, Sand and Gravel and Sandy Loam were encountered in the borings, typically found in a wet to saturated condition. These granular materials would rapidly slough into the caisson excavations, creating construction difficulties and an unstable ground around them. It is therefore our opinion that drilled shafts do not represent a feasible foundation option.

## 6.4 Pile Foundations

The bridge abutments are to be supported by metal shell (MS) piles or steel H-piles driven to refusal. Seven (7) pile sections have been evaluated in connection with them, i.e. HP 12x53, 12x63, 12x74, 12x84, 14x73, 12" diameter MS and 14" diameter MS. Nominal Required Bearing ($R_N$), Factor Resistence Available ($R_F$) and Estimated Pile Lengths are summarized in the following tables. They have been prepared in connection with Design Guide 3.10.1, LRFD Geotechnical Pile Design Procedure and AGMU Memo 10.2 (Geotechnical Pile Design).

| Pile Designation | Nominal Required Bearing (kips) * | Factored Resistance Available (kips) ** | Estimated Pile Lengths (Feet) |
|---|---|---|---|
| 12" Metal Shell | 355 | 195 | # |
| 14" Metal Shell | 516 | 283 | # |

| Pile Designation | Nominal Required Bearing (kips) * | Factored Resistance Available (kips) ** | Estimated Pile Lengths (Feet) |
|---|---|---|---|
| Steel HP 12x53 | 419 | 230 | # |
| Steel HP 12x63 | 497 | 273 | # |
| Steel HP 14x73 | 578 | 317 | # |
| Steel HP 12x74 | 589 | 323 | # |
| Steel HP 12x84 | 664 | 365 | # |

* Nominal Required Bearing to be achieved in all cases by driving the piles to refusal on rock.

** Factored Resistance Available computed using a geotechnical resistance factor of 0.55 (AGMU Memo 10.2); no reduction taken for scour, downdrag or liquefaction.

\# Estimated pile lengths for the seven (7) bridge supports summarized in the following table.

| Bridge Support | Structure Boring | Bottom of Abutment Cap | Estimated Pile Refusal | | Estimated Pile Length (Feet) ** |
|---|---|---|---|---|---|
| | | | Depth (Feet)* | Tip Elevation | |
| North Abutment | SB-1 | 684.37 | 35 | 654 | 33 |
| South Abutment | SB-2 | 686.06 | 34 | 657 | 31 |

* Depth below existing grade at the boring location.

** Estimated pile length include a 2.0 foot embedment into the abutment caps.

The piles are expected to penetrate to the top of bedrock or very dense Cobbles and Boulders found directly overlying it (possible weathered rock) in order to achieve the Nominal Required Bearing. No reduction had to be taken for downdrag, scour or liquefaction in computing the Factored Resistance Available. Estimated pile lengths include a 2.0 foot embedment into the abutment caps.

It should be expected that refusal elevations will vary across the pier and abutments due to variations in the weathered rock surface, the piles to possibly take up in very dense weathered bedrock and/or boulder zone overlying the bedrock surface. It is recommended that at least one test pile be driven at each abutment prior to ordering piles for production driving. It is also recommended that the piles be provided with metal shoes (pile points) due to the presence of cobbles and boulders within the subsurface stratigraphy.

6.5 Stage Construction

It is understood that stage construction will be required in order to build Bliss Road Bridge over Blackberry Creek. Stage I comprising of demolition/construction of the approximate left/eastern half of the bridge structure and Stage II of the right/western half. Stage construction will require temporary cantilevered sheeting for soil retention along centerline of Bliss Road at the abutments. The following table summarizes soil parameters that may be utilized for the development of design earth pressure diagrams.

**Recommended Soil Parameters**
**for Design of Sheet Pile Walls**

| **SB-1 (North Bridge Abutment)** | | | | | |
|---|---|---|---|---|---|
| Soil Type | Total Unit Weight (pcf) | Undrained Shear Strength | | Drained Shear Strength | |
| | | C | ö | C' | ö' |
| Existing Clay Loam Fill (Elev. 681.3 - 684.4) | 128 | 600 | 0 | 0 | 26 |
| Stiff Clay (Elev. 678.8 - 681.3) | 128 | 1000 | 0 | 0 | 28 |
| Soft Clay (Elev. 674.3 - 678.8) | 125 | 400 | 0 | 0 | 26 |
| Med. Dense Sand (Elev. 671.3 - 674.3) | 120 | 0 | 33 | 0 | 33 |
| Stiff Sandy Loam (Elev. 666.3 - 671.3) | 130 | 1000 | 0 | 0 | 28 |
| Very Dense Sandy Loam (Elev. 663.8 - 666.3) | 125 | 0 | 35 | 0 | 35 |
| Med. Dense Sand & Gravel (Elev. 655.3 - 661.3) | 120 | 0 | 33 | 0 | 33 |
| Dense Sand and Gravel (Elev. 655.3 - 661.3) | 125 | 0 | 35 | 0 | 35 |

C, C' - Cohesion Intercept in pounds per square foot (psf).

ö, ö' - Angle of Internal Friction in degrees.

| SB-2 (South Bridge Abutment) | | | | | |
|---|---|---|---|---|---|
| Soil Type | Total Unit Weight (pcf) | Undrained Shear Strength | | Drained Shear Strength | |
| | | C | ö | C' | ö' |
| Soft Clay Loam (Elev. 683.6 - 686.1) | 128 | 500 | 0 | 0 | 26 |
| Med. Dense Sandy Loam (Elev. 678.6 - 683.6) | 120 | 0 | 33 | 0 | 33 |
| Dense Sand (Elev. 671.1 - 673.6) | 123 | 0 | 35 | 0 | 35 |
| Med. Dense Sand (Elev. 671.1 - 673.6) | 120 | 0 | 33 | 0 | 33 |
| Med. Dense Sandy Loam (Elev. 668.6 - 671.1) | 120 | 0 | 33 | 0 | 33 |
| Very Dense Sand & Gravel (Elev. 657.6 - 668.6) | 125 | 0 | 35 | 0 | 35 |

C, C' - Cohesion Intercept in pounds per square foot (psf).

ö, ö' - Angle of Internal Friction in degrees.

6.6 Lateral Load Pile Parameters

In connection with the use of pile foundations for lateral resistance, the following soil parameters are recommended when using a computer program such as LPILE (p-y method). When the analyses are performed, it is recommended that the soils in the uppermost 4 feet be neglected for lateral resistance to the foundation. For the purpose of the design and analysis, it is suggested that the long-term water table at the estimated water level elevation for Blackberry Creek, Elevation 680.7.

| Elevation | Soil Type (p-y curve model) | Unit Weight (pci) | Su (psi) | Phi (deg.) |
|---|---|---|---|---|
| **SB-1 (North Bridge Abutment)** | | | | |
| 681.3 - 684.4 | Existing Clay Loam Fill w/o free water | 0.074 | -- | -- |
| 678.8 - 681.3 | Stiff clay w/o free water | 0.074 | 6.9 | -- |
| 674.3 - 678.8 | Soft Clay w/o free water | 0.072 | 2.8 | -- |
| 671.3 - 674.3 | Med. Dense Sand (Reese) | 0.069 | -- | 33 |
| 666.3 - 671.3 | Stiff Sandy Loam w/o free water | 0.075 | 6.9 | -- |
| 663.8 - 666.3 | Very Dense Sandy Loam (Reese) | 0.072 | -- | 35 |
| 655.3 - 661.3 | Med. Dense Sand & Gravel (Reese) | 0.069 | -- | 33 |
| 655.3 - 661.3 | Dense Sand and Gravel (Reese) | 0.072 | -- | 35 |
| **SB-2 (South Bridge Abutment)** | | | | |
| 683.6 - 686.1 | Soft Clay Loam | 0.074 | 3.5 | -- |
| 678.6 - 683.6 | Med. Dense Sandy Loam w/o free water | 0.069 | -- | 33 |
| 671.1 - 673.6 | Dense Sand w/o free water | 0.071 | -- | 35 |
| 671.1 - 673.6 | Med. Dense Sand (Reese) | 0.069 | -- | 33 |
| 668.6 - 671.1 | Med. Dense Sandy Loam (Reese) | 0.069 | -- | 33 |
| 657.6 - 668.6 | Very Dense Sand & Gravel (Reese) | 0.072 | -- | 35 |

## 6.7 Subgrade Support Values for Pavement Design

No specific information is available on pavement reconstruction and widening at this time. However, uppermost subgrade soils primarily consisted of Clay, Clay Loam and Sandy Loam Fill. For preliminary design purposes, it is recommended that a mechanistic pavement design be based on a SSR rating of "Poor" for this project. For a Modified AASHTO type pavement design, a nominal IBR value of no greater than 3.0 is recommended.

## 6.8 Topsoil Stripping

Normal topsoil stripping of all vegetation and root zone materials will be required for widening beyond existing shoulder areas along Bliss Road, prior to placement of any Fill materials. While topsoil type materials were not specifically encountered, for estimation of contract quantities a nominal root zone stripping depth on the order of 6 inches is recommended.

## 6.9 Guidelines for Subgrade Remediation

Once initial stripping operations have been completed, exposed subgrade soils should be tested with a Cone Penetrometer in accordance with the IDOT Subgrade Stability Manual to determine the remedial treatment depths. Observations of heavy construction vehicles on subgrade areas will help to delineate areas which have deficient strength.

All earthwork, new embankment construction and subgrade preparation should be in accordance with Division 200 and 300 of the IDOT Standard Specifications. Compaction for subgrade materials should be to at least 95 percent Standard Proctor density (AASHTO T-99). Remedial work for unstable subgrade should consist of discing, aerating, and recompacting exposed subgrade soils, as provided for in Art. 301.03 of the IDOT Standard Specifications. Depending upon grading requirements and specific site conditions, solutions to a persistent pumping problem may include use of geotextile stabilization fabric or geogrid product, removal of unstable soils and replacement with granular backfill, construction of trench drains or a combination thereof. Lime stabilization may be another feasible option which can achieve similar results and has the advantage of allowing work to proceed under adverse weather conditions.

The subgrade stability will be influenced by such factors as surface drainage provided by the contractor as well as the prevailing temperature and precipitation experienced during construction. The amount of trafficking and subgrade disturbance created by heavy construction vehicles will also have an influence on subgrade stability. The Contractor should try to make full use of inlets or ditches in order to maintain positive drainage for subgrade areas. Temporary drainage ditches or pumping from depressional areas should be provided as needed during construction in order to prevent ponded water from affecting the stability of the roadway.

Aggregate Fill may be required for bridging over weak subgrade soils which demonstrate persistent stability problems. Aggregate materials needed beneath the Aggregate Subgrade layer may consist of the IDOT Porous Granular Embankment-Subgrade (PGES). Please note that the PGES materials are to be placed beneath the aggregate base course and are to be used only as a bridging layer over soft, pumpy subgrade or for replacement of unsuitable soils. The use of geotextile fabric can help to reduce the depth of undercutting and aggregate Fill required.

The need for undercutting unstable subgrade and PGES replacement Fill should be based on direct observations made during construction once the subgrade soils are exposed and proof-rolling or cone penetrometer testing procedures can be conducted. Normal IDOT procedure requires cone penetrometer testing immediately prior to undercutting subgrade in order to document the need for the undercut and replacement Fill.

## 6.10 Estimated Quantities for Stripping and Aggregate Fill

Summarized in the following table is the existing grade at the boring locations as well as the depth of cut to proposed subgrade elevation, measured from the existing grade at each boring to the approximate subgrade elevation (estimated at about 2 feet below top of pavement, including 12 inches Aggregate Subgrade). The soil condition at the subgrade level at each boring location is also identified, as well as the estimated quantity of undercut/PGES materials.

**Estimated Quantities for Undercutting and**

**Porous Granular Embankment - Subgrade (PGES) Replacement Fill**

| Boring No. | General Location | Existing Grade | Cut Depth to Subgrade (ft)* | Estimated Thickness PGES | Soil Conditions at Subgrade Level |
|---|---|---|---|---|---|
| Bliss Road | | | | | |
| B-1 | 330' North of Blackberry Creek | 683.7 | C 2.0 | NR | Fill - Brown Clay Loam, moist Qu = 4.5* WC = 14% |
| B-2 | 330' South of Blackberry Creek | 698.9 | C 2.0 | GF | Loose brown Sandy Loam, moist |

NR Undercut and/or PGES Fill not required at boring location.

GF Geotextile fabric recommended at boring location.

* Cut (C) measured from existing grade at the boring to proposed road subgrade elevation; rounded to the nearest 0.5 foot.

The need for undercutting unstable subgrade and PGES replacement Fill should be based on direct observations made during construction once the subgrade soils are exposed and proof-rolling or cone penetrometer testing procedures can be conducted. All quantities of PGES materials not required during construction should be deleted from the construction costs. Normal IDOT procedure requires cone penetrometer testing immediately prior to undercutting subgrade in order to document the need for the undercut and replacement Fill.

6.11 Underdrain Placement

Underdrains are not specifically recommended for the widening of Bliss Road. However, consideration should also be given to the installation of longitudinal underdrains within areas of pavement widening in order to properly drain the Aggregate Base Course. They should consist of longitudinal underdrains which are placed at the outside edges of the proposed roadway, extending 50 to 100-foot in both directions of outlets. Underdrains should also be placed at the low points of undercuts replaced with PGES as determined in the field. All underdrains should outlet into ditches or storm sewers in such manner as to allow positive drainage and should be installed to a depth of at least 30 inches below pavement grade. It is recommended that the underdrains have a minimum of 4 inch diameter and backfilled using FA-1 or FA-2. Check Sheet 19 of the IDOT Recurring Special Provisions is generally regarded as the most effective procedure for underdrain installation.

## 7.0 CLOSURE

The analysis and recommendations submitted in this report are based upon the data obtained from the five (5) borings and four (4) pavement cores performed at the locations indicated on the Boring Location Plan. This report does not reflect any variations which may occur between these borings, the nature and extent of which may not become evident until during the course of construction. If variations are then identified, recommendations contained in this report should be re-evaluated after performing on-site observations.

We are available to review this report with you at your convenience.

Timothy R. Peceniak, P.E.
Project Engineer
Registered Professional Engineer
Illinois No. 062-061269

Michael V. Machalinski, P.E.
Vice President

TESTING SERVICE CORPORATION

*Corporate Office*

360 South Main Place, Carol Stream, IL 60188-2404
630.462.2600 • Fax 630.653.2988

May 19, 2015

Mr. Brent Pottorff
Wills Burke Kelsey Associates, Ltd
116 West Main Street, Suite 201
St. Charles, IL 60174-1854

RE: L - 82,538
Soil Sampling & pH Analysis
Bliss Road Improvement
Bliss Road
Kane County, IL

Dear Mr. Pottorff:

Testing Service Corporation (TSC) has completed sampling and laboratory analyses for pH for the above captioned project. The general scope of work was outlined in TSC proposal 52,350, dated February 21, 2014. The scope of work was later revised by the client via email correspondence dated April 6, 2015 to include pH analysis only of soil samples.

On April 22, 2015 soil samples were collected associated with geotechnical drilling services for for the Bliss Road improvements. Samples B-101, B-102 and B-103 were delivered to First Environmental Laboratories, Inc. following standard chain-of-custody procedures for analysis of pH. The analytical results, dated May 12, 2015, indicate that the pH of the soil is 8.43, 8.90 and 8.14, respectively, which is within the acceptable range between 6.25 and 9.0. A copy of the Analytical Report and chain of custody are attached.

We appreciate the opportunity to be of service to you. Please contact us with any questions.

Respectfully,

TESTING SERVICE CORPORATION

Brian K. Walker, P.G.196.000772
Manager, Environmental Assessments

Enc: Analytical Report and Chain of Custody

**First Environmental Laboratories, Inc.**
IL ELAP / NELAC Accreditation # 100292
1600 Shore Road • Naperville, Illinois 60563 • Phone (630) 778-1200 • Fax (630) 778-1233

May 12, 2015

Mr. Dave Hurst
**TESTING SERVICE CORP.**
360 S. Main Place
Carol Stream, IL 60188

Project ID: Bliss Road Improvements 82538
First Environmental File ID: 15-2172
Date Received: May 04, 2015

Dear Mr. Dave Hurst:

The above referenced project was analyzed as directed on the enclosed chain of custody record.

All Quality Control criteria as outlined in the methods and current IL ELAP/NELAP have been met unless otherwise noted. QA/QC documentation and raw data will remain on file for future reference. Our accreditation number is 100292 and our current certificate is number 003596: effective 03/24/2015 through 03/28/2016.

I thank you for the opportunity to be of service to you and look forward to working with you again in the future. Should you have any questions regarding any of the enclosed analytical data or need additional information, please contact me at (630) 778-1200.

Sincerely,

Stan Zaworski
Project Manager

**First Environmental Laboratories, Inc.**

IL ELAP / NELAC Accreditation # 100292

1600 Shore Road • Naperville, Illinois 60563 • Phone (630) 778-1200 • Fax (630) 778-1233

# Case Narrative

**TESTING SERVICE CORP.**

Lab File ID: **15-2172**

Project ID: **Bliss Road Improvements 82538**

Date Received: **May 04, 2015**

All quality control criteria, as outlined in the methods, have been met except as noted below or on the following analytical report.

The results in this report apply to the samples in the following table:

| Laboratory Sample ID | Client Sample Identifier | Date/Time Collected |
|---|---|---|
| 15-2172-001 | B101 | 4/22/2015 12:00 |
| 15-2172-002 | B102 | 4/22/2015 12:30 |
| 15-2172-003 | B103 | 4/22/2015 13:00 |

**Sample Batch Comments:**

Sample acceptance criteria were met.

The following is a definition of flags that may be used in this report:

| Flag | Description | Flag | Description |
|---|---|---|---|
| < | Analyte not detected at or above the reporting limit. | L | LCS recovery outside control limits. |
| C | Sample received in an improper container for this test. | M | MS recovery outside control limits; LCS acceptable. |
| D | Surrogates diluted out; recovery not available. | N | Analyte is not part of our NELAC accreditation. |
| E | Estimated result; concentration exceeds calibration range. | P | Chemical preservation pH adjusted in lab. |
| G | Surrogate recovery outside control limits. | Q | Result was determined by a GC/MS database search. |
| H | Analysis or extraction holding time exceeded. | S | Analysis was subcontracted to another laboratory. |
| J | Estimated result; concentration is less than routine RL but greater than MDL. | W | Reporting limit elevated due to sample matrix. |
| RL | Routine Reporting Limit (Lowest amount that can be detected when routine weights/volumes are used without dilution.) | ND | Analyte was not detected using a library search routine; No calibration standard was analyzed. |

First
Environmental
Laboratories, Inc.
IL ELAP / NELAC Accreditation # 100292
1600 Shore Road • Naperville, Illinois 60563 • Phone (630) 778-1200 • Fax (630) 778-1233

# Analytical Report

**Client:** TESTING SERVICE CORP.
**Project ID:** Bliss Road Improvements 82538

**Date Received:** 05/04/15
**Date Reported:** 05/12/15

| Lab No: | Sample ID: | Analyte | Result | R.L. | Units | Flags |
|---|---|---|---|---|---|---|
| **pH @ 25°C, 1:2** | | **Method: 9045D 2004** | | | | |
| 15-2172-001 | B101 | Date Collected: 04/22/15 | Time Collected: 12:00 | | | |
| Analysis Date: | 05/11/15 2:00 PM | **pH @ 25°C, 1:2** | **8.43** | | **Units** | |
| 15-2172-002 | B102 | Date Collected: 04/22/15 | Time Collected: 12:30 | | | |
| Analysis Date: | 05/11/15 2:00 PM | **pH @ 25°C, 1:2** | **8.90** | | **Units** | |
| 15-2172-003 | B103 | Date Collected: 04/22/15 | Time Collected: 13:00 | | | |
| Analysis Date: | 05/11/15 2:00 PM | **pH @ 25°C, 1:2** | **8.14** | | **Units** | |

# CHAIN OF CUSTODY RECORD

Page 1 of 1 pgs


First Environmental Laboratories, Inc.

First Environmental Laboratories
1600 Shore Road, Suite D
Naperville, Illinois 60563
Phone: (630) 778-1200 • Fax: (630) 778-1233
E-mail: firstinfo@firstenv.com
IEPA Certification #100292


Company Name: TSC
Street Address: 360 South Main Place
City: Carol Stream State: IL Zip: 60188
Phone: 630-462-2600 Fax: e-mail: dhurst@tscorp.com
Send Report To: David Hurst Via: Fax ☐ e-mail ☒
Sampled By: TRP

Project I.D.: Bliss Road Improvements
P.O. #.: 325358

Matrix Codes: S = Soil W = Water O = Other

| Date/Time Taken | Sample Description | Matrix | Analyses: PH | Hold – Do Not Analyze | Comments | Lab I.D. |
|---|---|---|---|---|---|---|
| 4/22/15 12:00 | B101 | S | X | | | 15-2172-001 |
| 12:30 | B102 | | | | | 002 |
| 13:00 | B103 | | | | | 003 |

FOR LAB USE ONLY:

Cooler Temperature: 0.1-6ºC Yes ✓ No ___ 4 ºC
Received within 6 hrs of collection: ___
Ice Present: Yes ✓ No ___

Sample Refrigerated: Yes ___ No ___
Refrigerator Temperature: ___ ºC
5035 Vials Frozen: Yes ___ No ___
Freezer Temperature: ___ ºC

Preservation Requirements Met: ☑ Yes ☐ No
Need to meet: IL. TACO ☐ IN. RISC ☐

Notes and Special Instructions: ___

Relinquished By: TRP Date/Time 4-22-15 1700 Received By: [signature] Date/Time 4-22-15 1700
Relinquished By: [signature] Date/Time 5-4-15 1635 Received By: [signature] Date/Time 5/4/15 16:35

Rev. 8/14